The Bradshaw Lecture

ON

COLOTOMY, LUMBAR AND ILIAC,

WITH SPECIAL REFERENCE TO

THE CHOICE OF OPERATION.

Delivered at the Royal College of Surgeons on December 5th, 1889,

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MR. PRESIDENT AND GENTLEMEN,—For the honour you have conferred upon me by nominating me your Bradshawe lecturer I offer you my best thanks; and I trust I shall be fulfilling the intentions of the founder of this lectureship by selecting a surgical question for consideration. The subject I have chosen may fairly be said to have come into notice during the lifetime of Dr. William Bradshaw of Reading (to whose memory this lecture was instituted in 1880), and to have grown rapidly into prominence since his death. The subject to which I wish to draw your attention is that of Colotomy, and I propose to consider it chiefly with reference to the form of operation which should be selected. It is not my intention to enter at any length into the history of the operation, for such would be wearisome; but I must remind you that while Littré in 1710 *suggested*, in the "Memoirs of the Academy of Sciences of Paris," the performance of the iliac (miscalled inguinal) or intra-peritoneal colotomy for the relief of infants born with imperforate bowel, the idea was not practically applied for eighty-seven years, when Pillore of Rouen in 1797 opened the cæcum in the right iliac fossa; and that while Callisen of Copenhagen *proposed* the extra-peritoneal operation of lumbar colotomy in 1796, it was not till 1839, when the operation was taken up and carried into effect by Amussat, that colotomy can in any sense be said to have found a place in the practice of surgery. The practical adoption of the operation was, however, very slow so far as London was concerned, for in October, 1859 (that is, twenty years after Amussat's success), or thirty years ago, when I undertook my first lumbar colotomy in a patient of the late Dr. Thomas Addison, the operation had been undertaken but once at Guy's Hospital, and that was by Mr. Hilton ten years previously;[1] and I am not aware that it had at that time been performed at any other hospital. Indeed, it may with all truth be said that the operation in both its varieties was then regarded with scant favour by the general body of the profession.

It may have been occasionally sanctioned as an operation for the relief of congenital rectal malformations when other measures had failed or were inapplicable; and to bring about this practice Mr. Curling's paper of 1860[2] had an undoubted influence; but as a means for giving relief to patients suffering from chronic intestinal organic ulceration or obstruction, from whatever cause, it was generally, and, indeed, I may say is still too much regarded, as a *dernier ressort*, and, as a consequence, it was as a rule only carried out when all other means had been tried and proved to be useless. This position of colotomy I, in common with some few other surgeons, have, however, never accepted. We have held a more favourable view of its capabilities both as a life-saving as well as a reliable palliative measure. We have regarded it as the best means the surgeon has at his disposal for the relief of rectal obstruction from cancerous and other disease which is not otherwise removable; and experience has proved that life may by it be saved when the disease is not cancerous, and prolonged even for years when it is so. Experience has likewise taught us that where these good results are not to be expected, what remains of life will be made more endurable; for the local disease which is the cause of the obstruction makes much slower progress and becomes a source of less distress as soon as the fæces are diverted from their normal course, and as a cause of irritation are removed. Within the last ten years there has consequently been a remarkable advance in the position of colotomy as an operation for the relief of rectal stricture, and at the present day the value of the operation is not only fully recognised by an increasing number of surgeons, but a warm discussion has arisen as to the operation which should be performed; indeed the casual reader of the journals and periodicals might be led to think that the lumbar or extra-peritoneal measure, which has hitherto found most favour, was becoming obsolete and doomed to give way to the iliac or intra-peritoneal method. For, at the present time—where in this branch of surgery, as in so many others, we see a measure of success follows modern practice, which by the old could never have been anticipated; when old landmarks are removed, and new ones are being laid down; it may appear to the skilful and ambitious as if "all things seem possible"—and under such circumstances it behoves us to take stock of facts and see whither we are tending, in order that the old paths be not blotted out by new without a good reason, and that change should not be mistaken for improvement; for caution must still be the surgeon's motto, and venturesomeness his rock of offence.

I propose in the present lecture, therefore, to compare the value of the lumbar or extra-peritoneal with the iliac or intra-peritoneal method of colotomy, and so utilise the experience I may have had of one or both operations, to help towards the solution of the important practical problem as it now presents itself. I would premise, however, in order to make clearer what I shall have to notice later on, that I have for many years always employed the oblique incision for lumbar colotomy (see engraving). For this line of incision not only follows the course of the nerves and vessels and allows room for all necessary manipulation, but falls

naturally into the fold of skin above the crest of the ilium, which is constant in all, and well marked in fat, people. This fold, I have reason to believe, acts beneficially in preventing the prolapse of the bowel which surgeons who employ other lines of incision are said to complain of, and at the same time tends to keep the artificial anus closed. When the bowel is exposed, I separate it carefully with the fingers from its upper and posterior attachments, and so allow it to bulge well out of the wound. When it is not over-distended, I, with a finger gently introduced at its posterior border, hook it well out of the wound, and rotate it inwards, in order to expose its posterior longitudinal band to view. I then and there fix it to the margins of the skin wound. Should the symptoms be urgent, I open the bowel at once, after having passed two sutures with a long straight needle through the integument and bowel, and given them into the hands of an assistant to hold and to keep tight. I open the bowel between these sutures, and as the contents of the bowel escape keep a stream of iodine water flowing over the part. With an aneurysm needle or finger inserted into the lumen of the opened bowel, I then draw the centre of one suture out, divide it, and with the divided suture fasten the opposite borders of the bowel to the skin wound, and deal with the second suture in a like way. A free opening is made into the bowel. The bowel is fixed subsequently with two or more sutures, and, as a rule, the inner border of the wound is left open for drainage purposes, particularly if the patient be very fat. When there is no need or urgency to open the bowel at the time of operation, I leave it *in situ* for three or more days. In some cases I stitch the projecting unopened bowel to the margin of the wound; in others I transfix it with long pins.

[1] Guy's Hospital Reports, 1849.

[2] Royal Medico-Chirurgical Transactions, vol. xliii

The former practice seems preferable in fat subjects, where the wound is deep; the latter in thin subjects where the bowel can be well drawn out. I never fix the bowel to the muscle. In two or three cases in which I have transfixed the bowel with pins I have had some slight local inflammation and suppuration from the escape of fæcal air at one or other of the points of puncture; but this complication has never been the source of any serious detriment. The practice, indeed, is so simple and satisfactory that I do not regard this objection as one of any importance.

I do not propose to make much use of or to rely upon statistics in the question before us—for the value of an operation like colotomy is no more to be estimated by statistical results than is that of herniotomy, and yet the value of herniotomy is never questioned. The immediate success or failure of both operations turns but little upon the operation itself if well performed, but upon two main points—the first being the local condition of the bowel above the seat of obstruction in colotomy, and at the seat of strangulation in herniotomy, and the second upon the general condition and age of the patient when submitted to either ordeal. In both cases, if from procrastination, serious intestinal changes have taken place before relief is given, recovery is hardly to be expected. In both cases, if these changes are but slight, recovery may be looked for; and yet again in both cases, if from old age or organic visceral disease feebleness be present, success will not be obtained; for where patients have, from whatever cause, no reserve of power at the Bank of Health upon which to draw in an emergency, the repair of parts injured by disease or operation becomes impossible. It is clearly evident, therefore, that in colotomy, as in herniotomy, the period at which either operation is undertaken, with respect to the changes in the bowel involved in either the obstruction or strangulation, is a matter of primary importance.

In herniotomy this truth is fully recognised, in colotomy it should be. The earlier either operation is performed the better will be the patient's chances; the longer it is postponed the greater will be the risks of serious incurable organic changes taking place in the intestine, and consequently the greater the risk to life. In the operation now under our immediate notice can it be said that these truths have had due weight, for has it not been too much the custom—indeed, is it not too much so now for a large part of the profession, and particularly of its medical side,—to look upon colotomy as a measure which should only be undertaken when all medical and other surgical means have been proved to be useless, and when an agonising death within a few hours stares the patient fully in the face unless relief be speedily afforded? Under such circumstances, can there then be any wonder that the statistics of both the extra- and intra-peritoneal forms of operation appear at first sight to be so bad, and that those of Erckelen, carefully compiled up to 1884, are made by Treves to show that thirty-eight in every hundred cases of lumbar, and forty-six in every hundred cases of iliac colotomy died within twenty-one days of the operation, though probably, I may add, not from it. To my mind it is, however, a matter of wonder that the mortality of the operation was not higher, for considering the circumstances under which most, if not all, of these operations were undertaken—that is, as a last resource,—the prognosis in all must have been most unfavourable. I believe, therefore, that the statistics I have quoted should be read in another way, and that it should be recognised that 62 per cent. of the cases of lumbar and 54 per cent. of the cases of the iliac operation were rescued from the grave, since it is more than probable that all the cases which were operated upon would have been undoubtedly lost if colotomy in one of its forms had not been performed. In fact, it may with truth be asserted that in spite of the adverse circumstances in which the operation was undertaken, the large majority of the patients gained by it a considerable addition to their lives, whilst those that sank within the month found relief, and were saved from the intense miseries of a death from obstruction, and died peacefully.

Author's cases.—I should here say that I have performed lumbar colotomy in 170 cases, and that all but ten were on the left side. One hundred of these were urgent cases, and the operation was undertaken to ward off impending death; of these fifty-five were successful, and forty-five sank within the month. These last are the cases I have described as "too late cases," since it is fairly certain that if the operation had been considered and undertaken at an earlier period of obstruction, and before death stared the patient in the face, many months of life would have been given to each sufferer, and much severe distress would have been saved.

LUMBAR COLOTOMY CASES FOR CANCER.

One hundred urgent cases, of which fifty-five were successful.

45 died within the month (too late cases).
18 died within twelve months.
19 lived between one and two years.
12 lived between two and three years.
6 are now alive—3 between two-and-a-half and five years after operation; 1, six years.

Seventy not urgent cases.

Not one died within the month.
18, or 15 per cent., died within twelve months.
24, or 34 per cent., lived between one and two years.
16, or 22 per cent., lived between two and three years.
12, or 17 per cent., are now alive, and 8 of these from two to six years after the operation.
38 per cent. of the whole number have survived the operation from two to six years.

Of the fifty-five successful urgent cases, eighteen, or about one-third, survived the operation a variable number of months, but died within the year; another third lived between one and two years; twelve lived from two to three years; six are now alive, three, two and a half, and three years respectively after operation, and one, a lady aged seventy-one, upon whom I was persuaded to operate nearly six years ago with the sole view of giving relief to the agonising pain she was enduring. She was so feeble that I never thought it possible she could live many hours; by good nursing and the careful guidance of her medical attendant she, however, made an uninterrupted recovery, and is now apparently well and suffering but little from her rectal disease.

Seventy cases were operated upon before obstruction threatened life and with the object of giving relief to the constant effort to pass stools and to the pain which was associated with it. Not one of these cases sank from the operation; all convalesced and expressed themselves as grateful for the relief which the operation had afforded. When death came it was painless and from exhaustion—euthanasia. Eighteen of these cases, or about a fourth of the whole number, died within twelve months. Twenty-four, or about one-third, lived between one and two years. Sixteen lived two and three years. Twelve are now alive, eight having survived the operation from two to six years. Another ten or more cases which have been operated upon during the last twelve or eighteen months are alive and going along comfortably. These are not included in the above list.

I should say that in at least three-fourths of the patients who convalesced from the operation and experienced its benefits the artificial anus was a success—that is, that the whole of the fæces were discharged through it, and the local disease was left unirritated by the passage of fæcal matter. In the remaining fourth this desirable result was not secured, and fæces at times—particularly when they were liquid—passed downwards, and added to the local irritation of the obstructing disease. Relief was, however, afforded to all these patients by the use of cleansing enemata, injected sometimes from the rectum below, and sometimes from the artificial anus above, and the subsequent introduction of a sedative suppository through either anus.

With these observations upon my own experience, which I thought well to place before you at this period of my lecture, I will now pass on to consider the relative advantages of the iliac or intra-peritoneal, and the lumbar or extra-peritoneal operation, for within the last few years it has become what I fear I must call the "fashion" to advocate the former as being in the words of one of its supporters "greatly superior to the lumbar method;" and the credit of forcing this question upon the attention of the profession must be mainly given to Messrs. Reeves, Herbert Allingham, Harrison Cripps, and Chavasse.

The chief grounds upon which these surgeons advocate the operation are as follows:—(1) That the iliac operation is in itself easier than the lumbar; (2) that by means of the abdominal incision the diagnosis in obscure cases may be verified before the bowel is opened; (3) that by it there can be no possibility of the surgeon mistaking the small intestines,

duodenum, or stomach for the large intestine, and that abnormalities of the colon do not mean failure of the operation, since the abdomen can by the inguinal wound be carefully searched; (4) that the bowel can readily be drawn out of the wound, and consequently firmly fixed to the skin without causing undue tension on the stitches; (5) that in lumbar colotomy there is frequently so much prolapse of the gut as to give rise to serious trouble; and (6) that the inguinal position of the wound is far more convenient to the patient for purposes of cleanliness as well as for the adjustment of pads, to guard against the escape of fæces and flatus.

I propose to examine these claims *seriatim*, and will do so in the light of clinical experience as supplied to us by the different classes of cases as they pass under our care, starting with the assumption that the diagnosis of rectal obstruction from cancer or other organic disease is clear. Now, cases of obstruction from rectal disease, cancerous or otherwise, as they come before the surgeon, may be divided into three great classes. The *first* includes cases which may be called *urgent*, since they are associated with acute general symptoms and severe abdominal distension. They are cases generally of annular stricture involving the upper part of the rectum. The *second* class includes cases of chronic obstruction, mostly of the lower half of the rectum without severe general symptoms, but with abdominal distension. The *third* class includes all cases of obstruction from stricture of the rectum, but not urgent, in which the symptoms are fairly well marked but without abdominal distension. To each of these three well-defined classes of cases the operation of colotomy has its own special relation.

Is, then, the iliac or inguinal operation easier than the lumbar? Let us inquire. When applied to the first two classes of cases in which great abdominal distension exists, whether with urgent symptoms or otherwise, the difficulties of an iliac operation cannot be trifling. The advocates of the operation may make light of them, but they exist, and the dangers associated with them cannot be ignored. The chances and risks of protrusion of the small intestine as soon as the peritoneum has been opened are real, and if the large intestine has to be searched for, or the abdomen explored for diagnostic purposes, these dangers must be much enhanced. Should the large bowel appear at once at the iliac wound, the operation, it is true, would be much simplified, but this, it is admitted by its advocates, does not always occur; and when it does, the free manipulation of the bowel which is recommended, and to which attention will be drawn later on, would be both difficult and dangerous. In the third class of cases in which the abdomen is undistended or flaccid, the difficulties of finding the bowel would be slight. On the other hand, a distended abdomen becomes in the operation of lumbar colotomy a condition of advantage, and the searching for the colon, under these conditions is, as a rule, by no means a serious matter. If the patient be fat, there is doubtless at times some trouble, but if the surgeon directs his search forwards towards the reflected peritoneum, and not backwards, into the lumbar fat, and at the same time rolls his patient over from the semi-prone position in which he may have been placed for operative purposes, into the semi-supine, so that the bowel may mechanically fall back towards the lumbar wound, this difficulty will be diminished or overcome. In cases in which the bowel is wholly or partially empty the same practice is also of use.

In the iliac operation, however, if the difficulties be really less than those that have to be encountered in the lumbar, the risks which necessarily appertain to the mere division of the parietal peritoneum must be taken into account, even by the surgeon who admits to the full the impunity with which the healthy peritoneum may be surgically treated. In lumbar colotomy it can only be in exceptional cases that the peritoneum is opened; and should it be so, there can be no more difficulty or danger in dealing with the wound in the lumbar operation than there is said to be in the iliac. In both the risks of peritonitis must, however, be run, whatever those risks may be.

I may say that in the 170 lumbar colotomies that I have performed, I have but twice, knowingly, opened the peritoneal cavity, and in those two cases no harm followed. I am compelled, therefore, to conclude that the iliac operation is not easier than the lumbar when abdominal distension is present, although when the abdomen is flaccid, such may possibly be the case. To open the abdominal cavity to search for and find the colon may be an easy measure; in the cadaver it certainly is so, and possibly it may be said to be more so than exposing the colon in the right or left loin. But from the patient's point of view—which is the only right one—can it be truly said that the division of the peritoneum and the searching with the finger in the peritoneal cavity for a bowel which is diseased or suffering from congestion, the secondary result of disease, involves no more risk to life than the simple exposure of the colon in the loin outside the peritoneal cavity in the lumbar operation? When the parietal incision has been made in the iliac operation, Mr. H. Allingham states that in about half of his cases, and Mr. Cripps writes that in about a third of his, the large intestine presented at once; hence the conclusion is evident that in the remaining half or two-thirds of the cases, the bowel had to be searched for by the finger in the peritoneal cavity. Mr. Allingham goes on to show us how this should be done. These are his words: "When the large intestine does not present itself, I pass my finger into the abdomen, sliding over the iliacus muscle until I arrive at the intestine, which I hook up to the opening with my finger and thumb. If this manœuvre fails to find the gut, I search towards the sacrum, feel for the rectum, and trace the gut up; should this not succeed, the finger must be passed upwards towards the kidney, and the descending colon felt and traced downwards." Mr. Cripps writes: "If any other viscera than the colon present, they must be pushed back and the colon sought for by the finger. Sometimes it can be detected by the hard scybalous masses within it, or it can be traced up after passing the finger into the pelvis and feeling for it as it crosses the brim. The colon being found, a loop of it is drawn into the wound." In the cadaver, and possibly in a patient with a flaccid abdomen and viscera undistended, uncongested, and uninflamed, the manipulations which I have just described may be simple to the surgeon, and they may possibly not prove dangerous to the patient; but with an abdomen distended, and viscera which are undergoing the secondary changes which so soon follow long-existing obstruction, this searching process, as quoted above, can neither be free from danger to the patient nor free from difficulty to the operator; whilst in lumbar colotomy this visceral searching process in the peritoneal cavity can never be required, except on very rare occasions; for on the completion of the parietal wound and the division of the deep fascia, in at least two-thirds of my own cases—and particularly when the bowel is distended, artificially or otherwise,—the colon presents at once, and under these circumstances, after the fat and connective tissue are gently separated from the bowel by means of the fingers, the bowel is readily made to protrude through the wound, to which it is secured. In fat subjects it is true that the exposure of the colon may not prove such a simple process as that described, and when the bowel is empty some difficulty may be experienced; but if the bowel be sought as already described forwards towards the lateral reflexion of the peritoneum from the bowel, and the empty bowel be inflated by Lund's inflator, this difficulty is lessened and overcome. But under no circumstances can the searching process in the lumbar operation be made to involve such important parts as are of necessity implicated in the iliac, although to the surgeon it may prove trying.

It is true, that if the iliac operations were always undertaken before obstruction had become a prominent symptom, and before abdominal distension had taken place, the searching process would doubtless be simplified and rendered less dangerous, although in lumbar colotomy the same conditions would be equally favourable. So far therefore as the searching for the bowel in the operation of colotomy is concerned, it must be concluded that the lumbar method in the majority, if not in every case, has the advantage.

The *second* argument which the advocates of iliac colotomy advance in its favour is that by the iliac incision the diagnosis in obscure cases may be verified before the bowel is opened. But may I ask, has this objection any real weight, and is there in the majority of cases much, nay, any, doubt as to the diagnosis of rectal or colic obstruction? In a large proportion of cases the disease is within finger-touch, and then where is the doubt? Where the hand fails to reach, have we not in the history of the case, in the general symptoms, and in the local symptoms, and particularly where ballooning of the rectum is present,[3] ample evidence to justify the formation of a working diagnosis upon which to base a definite line of treatment? and when the exact seat of the obstruction is not to be made out by the clinical phenomena, have we not

[3] THE LANCET, Jan. 5th, 1889.

abundant pathological knowledge which tells us, in no uncertain way, that in four-fifths of the cases of obstruction the disease is situated below the splenic flexure, and consequently below that part of the colon which would be opened by a left lumbar colotomy, and that in the remaining fifth of the cases a right lumbar operation would almost to a certainty suffice to give relief? May I ask, therefore—should a rule of practice which has hitherto answered for the relief of chronic rectal obstruction be altered to suit the exceptional and not the average case, and should the general practice of surgery be moulded by exceptional cases?

The *third* reason which has been adduced as an argument in favour of iliac colotomy is that by it there can be no possibility of the surgeon mistaking the small intestine, duodenum, or stomach for the large intestine; and that abnormalities of the colon do not mean failure of the operation, since the abdomen can by the inguinal wound be carefully searched. The first half of this argument may have weight with some minds, but it does not recommend itself to my own. I do not regard it as a fair one, for the mistakes to which attention has been drawn are clearly due to errors of judgment or carelessness which belong more to the operator than the operation; and in estimating the value of an operation we are bound to assume that the surgeon is reliable. Errors of all kind must creep into all work, and particularly into surgical work, but they cannot be legislated for. May I ask, are mistakes in iliac colotomy quite unknown? Has the small intestine never been opened in error? With respect to the abnormalities of the colon, about which so much has been written and said, and upon which the advocates of the iliac operation base an argument against lumbar colotomy, I hardly know what to say. That such may occur, I, as an anatomist, must admit; but if so, I presume to suggest that this same chance of abnormality may occasion trouble in the iliac as in the lumbar method, although such may possibly be of a different form. But in a surgical point of view is the chance of an abnormality of the colon being present an argument which should tell more against lumbar than iliac colotomy? My own experience says no, with no uncertain sound, since out of my 170 cases of lumbar colotomy I have not met with any instance which gave rise to a serious trouble, or that rendered the operation in any way a failure. On one occasion I had to increase my oblique incision forward and pick up the colon at the brim of the pelvis, thus opening the peritoneum; but I subsequently restitched the edges of the peritoneum to the bowel and completed the operation as usual, and with a good result. With this experience, therefore, whilst we may admit the possibility, we may, I think, fearlessly dismiss the probability of the presence of any abnormality of the bowel from our minds, and regard it with no more fear than we do the risk of meeting with an anatomical irregularity in any operation upon an artery for aneurysm or other purpose. In a surgical point of view the risk need not influence practice, and certainly should not tell against the lumbar operation.

The *fourth* argument adduced in favour of the iliac operation, "that the bowel can readily be drawn out of the wound and consequently firmly fixed to the skin without causing undue tension on the stitches," is in a measure true; but it applies more to the condition of the large bowel when empty than it does to that of a patient the subject of obstruction, since a loaded bowel could hardly be thus manipulated. An empty sigmoid flexure can, however, when seized be readily drawn through the iliac wound to the extent of many inches, whereas an empty colon can at the most be drawn out through the lumbar wound to the extent of three or four inches. But is this free extrusion of the bowel at either the iliac or lumbar opening a matter of primary importance? is it essential for the formation of a spur deep enough to prevent the passage of fæces past the artificial opening into the bowel below, and so down the gut to the seat of disease, where it may become a source of local irritation and pain? Mr. Herbert Allingham and Mr. Harrison Cripps, the two most prolific writers upon this subject, say it is; but of this I think evidence is wanting, since my own experience tells me that this result can usually be brought about by much milder measures than those suggested and carried into practice by the advocates of iliac colotomy.

In my own practice of lumbar colotomy, in which an oblique parietal incision is its leading feature, I have been able to secure this result not only in the majority of cases in which I have been called upon to operate at a stage of the disease in which the symptoms were not urgent and the colon was not overloaded, but in a large proportion of the urgent cases undertaken for obstruction. This result has been secured by separating the colon from its posterior lumbar attachments by means of the finger; drawing it well out of the wound; and so rotating it forwards as to bring the posterior wall of the bowel with its longitudinal band to the surface, and there fixing it. In some instances this desirable result was secured rapidly after convalescence, in others it was not obtained for several months, and in three or four cases I have had to enlarge the wound backwards towards the kidney to bring it about. The strongest evidence I can bring forward to support this practice is, however, found in the fact that in three examples of recto-vesical fistula upon which I have operated and in which the passage of fæces and flatus into the bladder caused intense distress, neither fæces nor flatus passed downwards into the bladder within a few weeks of the operation, although in two of the cases urine occasionally passed at night from the bladder upwards, and escaped out of the lumbar wound. One of these patients lived eighteen months after the operation, a second lived seven years, and the third was known to have been alive and well fifteen years later. I have likewise many patients now going about the world enjoying life in comparative comfort who are never troubled by the passage of fæces downwards to the seat of disease. It is true that this desirable condition is not always to be secured, and more particularly when the operation has been undertaken with a bowel over distended, under circumstances of urgency, and when the surgeon is unable to bring about the required extrusion of the colon through the wound. But even in these cases there is not always any very serious distress, particularly if the rectum and the lower part of the bowel be kept empty by the use of cleansing enemata followed by the introduction of a sedative suppository; for with the artificial anus established above the seat of obstruction, the straining and forcing of the bowel, which previously may have caused much distress, are done away with, and as a consequence there is comparatively little pelvic pain. Indeed, even a foreign body may rest for months at the seat of obstruction without giving rise to any serious symptoms; for I have here [showing the specimen] a rubber plug which was, from carelessness on the part of a medical patient, allowed to pass from the colotomy wound downwards into the rectum to the seat of disease, and which remained in that position for twenty months without giving rise to any trouble, and was then expelled upwards by the action of the intestine and out of the colotomy wound, when the history of the lost plug was obtained. It may, therefore, be said that in the majority of cases of lumbar colotomy a sufficient spur is commonly obtained by the simple measures I have been in the habit of employing and which I have just described.

Before leaving this question of spur, I must allow the advocates of the iliac operation to explain their practice; and I shall do so by using their own words. Mr. Herbert Allingham, in the last edition of his father's work on Diseases of the Rectum, as well as in papers of his own published in the *British Medical Journal* for Oct. 22nd, 1887, and April 27th, 1889, goes fully into the way he believes this spur is to be obtained, and at the same time points out by what means the serious prolapse of the bowel which he admits frequently follows the iliac operation, can be best guarded against. Mr. Cripps also describes his method in the same journal for April 27th, 1889. "When the gut is found," writes Mr. Allingham, "and brought to the surface, I look for a piece with a sufficient mesentery, by passing the gut through the fingers; of course this can only be done if the disease is in the rectum, or lower part of the sigmoid flexure. Generally the part of the sigmoid first pulled up has quite sufficient mesentery. If it is fixed to the back of the abdomen, there being a very short mesentery, I pull up as much of the gut as possible, and stitch it to the wound, so that the intestine when opened (some days later) looks like the orifice of a double-barrelled gun. This appearance is obtained by introducing the suture in the following way:—A needle threaded with carbolised silk is passed through the mesentery, close to the intestine, then through the abdominal wall on both sides at the middle of the wound, and the sutures are tied up tight. If there is little or no sigmoid mesocolon, I am obliged to pass the sutures through the muscular and serous coats of the gut at its posterior part. Leaving a fair-sized knuckle of loose gut outside the wound, I next sew the gut all round to the skin, passing the thread only through the muscular

and serous coats. This is done carefully, so as not to prick the mucous coat. Antiseptic dressings are then applied. The gut is not opened for two or three days, unless bad symptoms appear." Mr. Harrison Cripps writes: "The colon being found, a loop of it is drawn into the wound. In order to avoid *the prolapse which is likely to occur* if loose folds of the sigmoid flexure remain immediately above the opening, I gently draw out as much loose bowel as will readily come, passing it in again at the lower angle as it is drawn out from above. In this way, after passing through one's fingers an amount varying from one to several inches, no more will come. Two provisional ligatures of stout silk are passed through the longitudinal muscular band opposite the mesenteric attachment. These provisional ligatures help to steady the bowel during its subsequent stitching to the skin, and, moreover, are useful guides when the bowel is ultimately opened. They should be about two inches apart." I have quoted in full these two surgeons' remarks upon the methods they employ to bring about the required result, as my desire is to do them full justice; but I cannot fail to draw the conclusion that to carry out the practice as recommended, it is clearly intended, although it is not stated, that the operation of colotomy should be undertaken at an early period of disease, and before symptoms of obstruction have become marked, for the manipulations described could never be carried out with an inflated abdomen and distended and possibly injured colon, nor can they be said to be free from danger. The means these surgeons employ to obtain their object are far more serious, and in my view more dangerous, and, so far as evidence goes, not more successful than the simple measures I have already described as applicable to the lumbar operation.

The next or fifth objection that I have to consider which has been raised against lumbar colotomy has reference to the prolapse of the bowel, which is said by the advocates of the iliac method to occur after convalescence has taken place in the lumbar operation, and which is stated to give rise to serious trouble. I must assume that this objection is real and based upon facts, and is not theoretical; for my own experience does not allow me to support it in any way. Indeed, in only one out of my 170 cases has this complication arisen, and in it it was the distal end of the colon which was at fault. The prolapse was also readily controlled.

A certain amount of prolapse after lumbar colotomy must be looked upon as an advantage, and I never feel certain that my patients are safe from the occasional passage of fæces past the lumbar wound downwards into the rectum until it has formed. I like one equal in extent to that which normally takes place in the horse in the defecating act. Such a prolapse I have called the equine prolapse. To have the question of prolapse, therefore, raised as an objection to lumbar colotomy is somewhat comical, and more particularly when we read in the writings of the advocates of the iliac method of the very severe measures which are considered justifiable to guard against it. Upon this point Mr. Allingham writes: "Through the new opening in the groin the intestine protrudes, and is a source of constant trouble and discomfort. Some patients have told me that had they been aware of the possible sequela they would never have consented to undergo the operation. Their life is simply spoilt, and they are practically prevented from going about and mixing with the world at large in consequence of the constant protrusion of the mass." After this serious grievance has been noticed, he goes on to describe the measures he adopts to prevent this trouble from following the iliac operation, and these means are, first, the pulling out of the gut through the iliac wound by its lower end till no more can be made to protrude, and this is to be followed by the same treatment of the upper end. The mesentery is now quite taut, and a large bunch of intestine several inches in length has been drawn through the opening, and is allowed to rest upon the abdomen. This bunch is then at its neck carefully stitched through its mesentery and muscular and serous coats to the edges of the wound. Later on this mass is excised, and it is interesting to note that quantities ranging from three and a half to six ounces in weight of intestine can be removed, without, as Mr. Allingham adds, any apparent detriment to the patient." As a physiological experiment these facts are of interest, but surely from a purely surgical point of view these measures tend to magnify the dangers of the iliac operation. Mr. H. Allingham admits this to be the case, and "confesses that this supplementary procedure of cutting away so large a quantity of gut has materially increased the seriousness of the operation, although," he adds, "the exceeding discomfort occasioned by this possible procidentia necessitates a fair grappling with the circumstances."

Mr. Allingham fails, however, to point out what must be evident to his as to my mind, "that the pulling out of the gut through the iliac wound by its lower end till no more can be made to protrude, and this to be followed by the same treatment of the upper end," must, of necessity, bring the local disease for which the colotomy is made dangerously near the wound. For my own part, if the measures I have quoted be necessary to make iliac colotomy a success, I can hardly admit that the operation as a rule of practice should be chosen so long as we have at our disposal the old and approved lumbar method, the objections to which are very unreal, and which under no circumstances can be complicated with conditions which can require any such severe surgical measures as those I have described, and particularly if the case be treated early.

The last and sixth argument I have to notice which is raised against lumbar and in favour of iliac colotomy has reference to the position of the artificial anus; the advocates of the latter operation maintaining that the iliac anus is more convenient to the patient for purposes of cleanliness as well as for the adjustment of pads to guard against the escape of fæces and flatus. Now, is this wholly true? That it is so to a degree may be at once admitted, for with an anterior wound the necessary process of washing is more readily carried out than it can be with a lumbar opening, although with it the difficulties are not found to be serious. But can it be said that the escape of fæces and flatus from the iliac opening is more readily controlled by pads and instruments than it has been found to be from the lumbar? My own experience tells altogether the other way—for the loin is a fixed and firm position, and its condition is much the same so far as resistance is concerned at all times—a good pad and dressing can consequently be readily maintained *in situ* without trouble or inconvenience, and if the patient wear stays, this difficulty is lessened. With the iliac method these stable conditions of parts cannot be said to exist. A pad and bandage which is satisfactorily adjusted with the patient standing will require readjustment with the patient sitting; and the variable condition of the bowel itself must always keep up constant change. I have been consulted by several subjects of iliac colotomy upon this point, and found their grievance to be a real one, and more particularly since it is irremediable. In three cases of iliac artificial anus which I have had, the difficulty was insuperable. Upon this score therefore, as upon many others, I hold the lumbar operation to be the preferable.

There are also certain cases of rectal cancer in which iliac colotomy seems to be quite inapplicable—that is, when the disease is fairly high up and involves the bowel above the brim of the pelvis. In these cases iliac colotomy would be a failure, as the opening would be below the seat of the disease, or the colotomy wound would be too near the diseased structure to be a success, since the chances of the growth spreading to the wound would be great, and the complication most detrimental. In all cases of iliac colotomy for rectal cancer this fear is real; indeed, in the lumbar operation itself cases are not rare in which the lumbar wound has become involved from the extension of the rectal disease. On the other hand, there is a class of cases in which the iliac method may have the advantage, and that is when the diagnosis of the case is less clear than usual, and the position of the bowel uncertain. Of this I have had one example. The incision, as Mr. Cripps rightly states, acting at first as an exploratory procedure for diagnostic purposes, and later on as a remedial measure. But these cases are most exceptional, and, as I have already said, the practice of surgery must be based upon average cases and not upon rarities. By iliac colotomy also the surgeon may be more frequently able to turn the case into one of colectomy, or excision of the growth, than by the lumbar method. I have done this but once in all my lumbar operations, and that case is fully recorded in the Royal Medical and Chirurgical Transactions for 1882, vol. lxv. With these comments upon the objections which have been raised against lumbar colotomy, and the supposed advantages of the iliac method, I must now sum up my material; and to save time I have done so in the form of a series of propositions.

1. For the iliac operation to be a success, the large bowel should not be loaded with fæces, the abdomen be by no means

tense, and the symptoms of obstruction far from urgent; since under opposite conditions (such as those too commonly met with) its supposed advantages would hardly be demonstrated. The searching for the bowel would, moreover, be a serious difficulty; the free manipulation, extrusion, or excision of the bowel which is advised would be unsafe even if practicable, and the necessity of having to open the bowel upon its exposure would, when called for, add to the dangers of the measure. The iliac operation consequently would appear to be applicable to only a small class of cases. If, then, it can be said that iliac colotomy is an easier operation than the lumbar, when the large bowel is empty, the abdomen flaccid, and the symptoms of obstruction unpronounced, it can without hesitation be asserted that with a distended abdomen and colon and urgent symptoms the lumbar operation is the simpler of the two.

2. To search for the colon in iliac colotomy performed upon a patient with an undistended abdomen and free from all urgent symptoms may neither be difficult nor dangerous; but with the opposite condition, in which the bowel is damaged above the immediate seat of disease from prolonged obstruction, danger must exist, and such a danger must be added to that which appertains to the peritoneal wound. In lumbar colotomy neither of these dangers has to be met; such searching for, extrusion, and dragging outwards of the colon as is considered to be essential in the iliac operation is never requisite, since the spur which is considered to be so essential to guard against the passage of fæces past the artificial opening in the iliac method can in the lumbar be obtained by far simpler means.

3. The prolapse of the bowel at the artificial opening which has been adduced as an objection against lumbar colotomy does not rightly or of necessity belong to it. To judge by my own experience, it is imaginary. In the iliac operation the objection is admitted, and sought to be remedied by an operative measure which is in itself of far greater magnitude than any lumbar colotomy I have ever done or seen.

4. The fear of an abnormality of the colon rendering the operation of lumbar colotomy a failure is practically groundless. I have known it to occur but once in my own practice, and in that case the patient suffered no harm. Such a fear, therefore, need in no way tell against the lumbar measure.

5. The greater convenience of the iliac over the lumbar wound for toilet purposes may at first sight seem plausible, but this apparent advantage is more than counterbalanced by the greater difficulty that exists in keeping any dressing or compress in position over the anterior opening to prevent the escape of the intestinal contents than is ever experienced over the lumbar.

6. The final conclusion is, therefore, clear that iliac colotomy is not yet proved to be superior to the lumbar operation. In doubtful cases, in which an exploratory incision is required for diagnostic purposes, it may be useful, but such cases are very few; in all others, lumbar colotomy has advantages which stamp it as the better measure. The single advantage that I can see in the adoption of the iliac method is that the question of operative interference will have to be taken into account at a far earlier period of the patient's trouble than it has been hitherto the custom to consider the propriety of the lumbar operation; if so, we may soon see the valuable operation of lumbar colotomy take its right place in the practice of surgery, and good may come out of a fashion which has certainly not been a universal success.

I regret to say that the notes of my cases are not sufficiently full to allow me by statistics to support a valuable remark by Mr. Jessop, in his instructive paper on the Treatment of Cancer of the Rectum at the Leeds meeting of the British Medical Association in August last, although I am convinced that upon the whole he is right, and "that in cancer of the lower half of the rectum we have not much fear of the occurrence of complete stoppage, and that that which occurs may in the majority of cases be got over for a time by injections, the introduction of the finger, or of bougies, the use of laxatives, and the like; but that where the upper portions of the rectum are involved, complete blockage is almost certain sooner or later to appear." Mr. Jessop's explanation of this fact is also doubtless correct, and it is found in the anatomical relations of the upper and lower portions, for whereas the rectum as it approaches the outlet becomes more closely applied to the sacrum and pelvic wall, in its superior portion it is comparatively free, and thus the contractile action of the colon above is exerted with effect in forcing the contents through a contracted ring where that ring is fixed and immovable; whereas, when the narrowed portion is free, movable, and not attached, as it is when seated in the upper portions of the rectum, the efforts of the bowel above succeed only in invaginating or otherwise displacing the growth, often so as to enable us to make a complete diagnosis by bringing the disease within reach of the finger, and fail altogether in effecting any onward movements of the contents.

In cancerous disease of the lower part of the rectum colotomy is, therefore, called for more for the purposes of relief of local distress than for pressing obstruction; whilst in the cases of cancer of the upper part of the bowel, the same treatment is called for, again using Mr. Jessop's words, "as soon at least as the first symptoms of impending blockage appear, and in time to anticipate those further changes upon which the mortality of colotomy so much depends."

ON THE

OCCURRENCE OF ACUTE HÆMORRHAGIC NEPHRITIS IN SUPPURATIVE MENINGITIS.

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THREE cases of this nature have recently come under our notice, and being struck by the fact that the nephritis in all three seemed to be rather a direct consequence of the meningitis than a mere coincidence, we have been led to study them carefully as being of considerable pathological interest. The results of our investigations show that the nephritis possesses certain special characteristics which we think are worthy of record, since we are unable to find that attention has previously been called to any relationship existing between these two conditions. These three cases seem to represent three stages of one and the same pathological process—namely, an early, a more or less intermediate, and an advanced stage; and we propose to describe the cases in this order, submitting first of all the clinical and pathological facts of each case, and afterwards discussing the various points of interest bearing upon the pathological relationship of this complication.

CASE I.[1]—Harry C——, aged seventeen, a brassworker, was admitted to the General Hospital, Birmingham, under the care of Dr. Simon (acting for Dr. Wade) on July 17th of this year. He was in an unconscious condition, so that the following history of his illness had to be obtained from his mother. On the morning of July 15th, having been previously to all appearances quite well, he complained of headache and vomited once or twice. There was a vague history of his having had a slight blow upon the head some short time before, but it seems doubtful if this were of any importance. There was no history of any rigor. He was sent to bed and remained there until he was brought to the hospital. During the 16th he was delirious and refused his food. On admission his temperature was 104° F., respiration 28, and pulse 100. Skin dry and burning, tongue foul. He lay on his right side, taking no notice of his surroundings, but was very irritable when disturbed. There was no squint, paralysis, or muscular twitching. Pupils were equal and reacted to light. Bowels had not been open for three days. Urine was passed involuntarily, so none could be collected for examination.—18th: Vomiting continued. Urine saved this morning and found to contain blood and albumen. One-twelfth of a grain of pilocarpine was given at 12 noon and 7 P.M., after which he sweated freely, and his general condition seemed a little better. Bowels open after castor-oil enema.—19th: Still very restless and wandering. Urine report was as follows: Twenty-eight ounces; specific gravity 1025; deep amber, smoky, acid; urea 3 per cent.; cloud of albumen, blood, granular and hyaline casts.

[1] For the notes from which this case was abstracted we are indebted to Dr. Short, resident medical officer of the hospital.

One-twelfth of a grain of pilocarpine was repeated, and fifteen grains of bromide of potassium ordered.—20th: Boy extremely restless, necessitating special attendant.—21st: Tongue and teeth foul, dry, and covered with sordes. He is incessantly moving about in bed in an aimless way, groaning all the time. He passes his urine involuntarily; but all attempts to get the bowels (which had been confined since the 19th) open failed, though on one occasion two minims of croton oil were given. He did not sleep more than an hour last night. Pilocarpine repeated. Later on in the day the temperature began steadily to rise, reaching 105·8° at 10.30 P.M., and subsequently 107°. Muscular twitchings of both arms and legs, more marked on the right side, began with the rise in temperature. Temperature reduced to 104° by sponging.—22nd: Temperature still very high. Muscular twitchings continue. Death occurred at 6 P.M. At the post-mortem examination the meningeal vessels over the vertex were found engorged, but the dura mater was neither tense nor adherent to the calvaria. Lines of greenish-yellow lymph extended along the course of the vessels over the cerebral convolutions of both hemispheres, and the pia mater was adherent at places to the cortex. Diffuse patches of lymph were found on the dural arachnoid at the base of the skull in the middle and posterior fossæ, and extended some way down the spinal canal. These patches were not found over the base of the brain itself except in the two Sylvian fissures. The basal ganglia looked cloudy and hyperæmic, but the brain substance was fairly firm. Ventricles were dilated and contained an excess of clear serum. Microscopical examination of the meninges showed no evidence of tubercle. On the heart a few subendocardial ecchymoses were found, and there was slight hypertrophy of the left ventricle. The lower lobes of the lungs were congested; bronchial tubes full of muco-pus. The kidneys weighed 8½ oz. Capsules a little sticky in places, but surface smooth. Venæ stellatæ engorged. On section, the organs looked hyperæmic, but cortex here and there a little more pallid than normal, with tendency to opacity. Punctiform and streaky hyperæmia, with some punctiform extravasations here and there on careful inspection. Otherwise no gross changes of extent or importance could be made out with the naked eye. The remaining organs presented nothing worthy of note. Histological examination of the kidney showed the following condition: General hyperæmia. The presence in the tubules, both of cortical and medullary portions of red blood-cells and occasionally hyaline and granular casts. Early cloudy swelling of the renal epithelium, more obvious in some than in other convoluted tubules; slight hyaline swelling of the walls of the glomerular capillaries, and the occasional presence of a granular and reticulated exudation within Bowman's capsule. In some glomeruli the capillaries looked abnormally dilated and were distended with red blood-cells, but no proliferative changes were noticeable in either the capsular or glomerular epithelium, at the most only slight swelling of it. The stroma appeared absolutely normal.

CASE 2.—George K——, aged twenty-four, was admitted into the London Hospital under the care of Dr. Sutton on Oct. 7th, 1886. He was then suffering from headache, pain in the abdomen, and general malaise. His temperature was 104°, face flushed, skin hot and dry, and he was delirious. For several days previously he had suffered from severe headache, and had vomited. There was no history of his having had any discharge from the ears, and his aunt, with whom he was living, stated that she had noticed that the urine was very dark on the day before admission, but not previously. The morning after admission he passed urine charged with blood, of which the following was the report. Specific gravity 1010, porter-coloured, acid, one-fifth albumen; blood casts, blood, and epithelial débris in large quantity. The following night, Oct. 9th, delirium was so excessive as to necessitate his being conveyed to a padded room. He had a distinct rigor that afternoon, his temperature rising to 105°. This was followed eight hours later by a second. These were repeated at intervals for the next two days, during which time the urine passed was similar in character to that voided the first day. There was no paralysis or muscular twitching, but restlessness and delirium were most marked, and produced a condition of extreme exhaustion, from which he sank on Oct. 13th. Post-mortem examination revealed a diffuse suppurative meningitis, involving the surface of the whole of the right hemisphere, and extending slightly on to the left. There was extensive disease of the middle ear on the right side, from which the suppuration had started. The right lateral sinus was thrombosed, and the thrombus breaking down. The kidneys were very large, dark, and intensely engorged, weighing eleven and ten ounces respectively. There were no pyæmic abscesses to be found in the kidneys or in any of the other organs, which, except that they were all more or less hyperæmic, presented no morbid appearances. On histological examination the most striking feature was the extensive hæmorrhage into the tubules, which in some instances seemed to have taken place directly through the basement membrane, from the engorged and probably ruptured intertubular capillary vessel; the epithelium was pushed away from the basement membrane by the interposition of red blood-cells. The glomeruli were uniformly swollen and mostly filled out their capsule; they showed nuclear proliferation and occasionally hyaline degeneration of the capillary tufts, but no exudation within the capsule. Parenchymatous changes were quite obvious, and consisted in proliferation and disintegration of the epithelium of the convoluted tubules as well as the presence within some of a granular or colloid exudation. The stroma was the seat here and there of small-celled infiltration.

CASE 3.—George M——, aged forty-one, was admitted into the General Hospital, Birmingham, under the care of Mr. Bartleet, on Nov. 24th, 1888, suffering from a small subdural abscess, the result of a punctured fracture of the skull, which he had sustained some months previously. The symptoms were purely local on admission. On Nov. 30th he was trephined, and a drainage-tube inserted.—Dec. 1st: Free purulent discharge from wound, slight twitchings in left arm and left side of face, accompanied by a sensation of numbness in these regions. Temperature 101°.—2nd: Temperature rose to 102°, but twitchings ceased. Patient complains of headache.—7th: Temperature has gradually fallen to normal, but there is great restlessness. A hernia cerebri has begun to appear.—10th: The urine, which had been carefully watched up till the day before and found natural, is this morning charged with blood. The following is the report: Specific gravity 1018, porter-coloured, dense cloud of albumen, chocolate-red deposit composed of large, coarse colloid and granular casts, small granular casts, epithelial casts, numerous red and white blood-cells, numerous hæmatocytes, and much yellowish-brown granular débris. Temperature has risen again to 101·4°.—12th: Cerebral symptoms, including muscular twitchings, headache, slow pulse (60), drowsiness, and marked wasting are steadily increasing. Urine voided only in small quantities; is similar in character to that passed on Dec. 10th.—14th: Headache very severe, and accompanied by pain in the back of the neck.—16th: Patient became quite unconscious yesterday, and died this morning. The urine up to the time of death still contained blood. The post-mortem examination showed that a hernia cerebri had protruded through an opening in the right parietal bone, a little in front of the lambdoidal suture, and around it an extensive purulent meningitis had developed, affecting both hemispheres, but especially the right, where the purulent exudation in the subdural space was fully $\frac{4}{10}$ in. thick. The pia mater was diffusely hyperæmic, and contained in its substance patches of lymph along the course of the cerebral vessels. There was only a very slight effusion of lymph found at the base of the brain. Except around the hernia cerebri, the brain substance on section appeared fairly normal, and contained no abscess cavity. Beads of pus were found in the choroid plexuses, and the ependyma was soft and infiltrated. The kidneys weighed 16 oz., and were typical examples of the large red-mottled kidney. The capsules separated easily. On section the glomeruli were more distinct than usual, appearing as minute glistening bodies. The heart weighed 10 oz. The lungs weighed 2 lb. 6 oz. The bases were œdematous and congested. The spleen weighed 4 oz.; it was soft and pulpy. The liver weighed 54 oz.; it revealed cloudy swelling, with slight fatty changes. Histological examination of the kidneys showed the nephritis to be an acute diffuse one of considerable intensity, in which the changes affected the glomeruli, parenchyma, and stroma almost equally. The glomerular changes consisted in general swelling and cellular infiltration of the capillary tufts, and in the formation within the capsule of a hyaline reticulum, enclosing in its meshes desquamated capsular epithelium, lymphoid, and a few red blood-cells. The exudation then appeared to undergo a rapid coagulative necrosis, and insinuated itself between the lobules of the tufts; it is not

infrequently accompanied by hyaline degeneration of the capillaries themselves. The afferent arterioles were swollen and compressed, both without and within, by cell proliferation; hyaline swelling of the intima was sometimes met with. The efferent venules were dilated and lined by swollen endothelium. Parenchymatous changes were equally prominent, and the intratubular exudation was of a varied character. The epithelium of the convoluted tubules was uniformly swollen and proliferating, it was coarsely granular, and often undergoing colloid degeneration. A most conspicuous change was the presence within many of the convoluted tubules of true fibrinous casts—that is, casts composed of either fibrin alone or containing in its meshes leucocytes and red blood-corpuscles. In this respect it much resembled the intra-alveolar exudation in croupous pneumonia. These casts appeared to undergo coagulative necrosis, and to melt down into homogeneous and highly refractive colloid material. Other tubules, notably Henle's loops, contained blood, cellular (lymphoid) and delicate hyaline casts. The intertubular stroma was infiltrated with œdema, and with leucocytes which were sometimes found disposed around Bowman's capsules.

Remarks.—It is now an accepted fact in renal pathology that the acute specific febrile diseases are answerable for a great number of the examples of acute nephritis that come under observation; and pathologists have classed them in a group which they have designated "febrile" or "infective" nephritis. The nephritis develops in the course of the disease, and in some instances, notably in scarlatina and diphtheria, constitutes an important clinical feature in the case. It is attributable in most instances to the operation of the same specific virus supposed to be responsible for the disease itself. Among the list of acute febrile diseases in the course of which a nephritis may develop suppurative meningitis has not hitherto been included, for the reason that, if it were noticed to occur at all, it was probably regarded as but another manifestation of general septic mischief. The points of interest in the nephritis presented by these three cases are twofold. First, certain peculiarities observed in its anatomical characters; second, its nature and pathological relationship to the meningitis.

I. Certain peculiarities in its anatomical features. 1. The feature common to, and most conspicuous in, all three cases is its strikingly hæmorrhagic type, shown by hæmorrhage of varying extent into the tubules, an extreme degree of which was found in Case 2. 2. The diffuse character of the inflammatory changes, of varying intensity in the three cases, but present in all. 3. Its resemblance to croupous pneumonia in the following particulars: in the engorgement with swelling of the epithelium, then in the fibrinous exudation,[2] with proliferation of the epithelium, and lastly, in the commencement of degenerative changes in the inflammatory products. 4. The absence of necrotic foci as indicative of capillary embolism (pyæmia). 5. The absence of micro-organisms (septicæmia). 6. The absence of any evidence of previous renal disease.

II. In attempting to discuss the nature and pathological relationship of the nephritis to meningitis, we must first draw attention to the origin of the primary disease itself. In Cases 2 and 3 the meningitis was manifestly septic, being secondary to ear disease in the one and to traumatism in the other, while Case 1 appears to have been, as far as we can determine, idiopathic and of a simple purulent character. In view of exception being taken to our idea that the nephritis was consequent upon the meningitis, we think that a few observations on the clinical aspect of the cases bearing upon this point might be made. In Case 1 we have no proof as to the priority of the meningitis. The knowledge of the condition of the urine collected on the second day altered the clinical aspect of the case, and made the diagnosis between some anomalous form of uræmia and meningeal irritation more difficult; but, in the absence of urinary suppression, and with the presence of marked delirium, the balance remained in favour of the latter. In Case 2 the evidence with regard to the priority of the meningitis is much stronger, while in Case 3 it is conclusive, so that it seems highly probable that this relationship also obtained in the first case. It is to be regretted that the previous history in Cases 1 and 2 could only be obtained indirectly, as in neither was the patient able to give any information concerning his previous condition or subjective symptoms. With regard to the nephritis, we are inclined to attribute it to the combined effect of two independent causes—namely, septic absorption and vaso-motor disturbance common to the various forms of meningitis. Much importance has of late years been attached to the demonstration of micro-organisms in the kidney as evidence of the infective character of the nephritis; and in certain forms of embolic origin, such as occur in pyæmia, ulcerative endocarditis, &c., they have been found by various investigators to be pretty constant, and not difficult of detection. This, however, is not the case in some of the other acute febrile diseases, such as scarlatina, diphtheria, enteric fever, &c., where the evidence on this point is conflicting.[3] We might here quote a remarkable example of acute nephritis occurring in a case of cancrum oris which one of us had the opportunity of examining some time ago. In this the inflammation was exquisitely catarrhal in type, and consisted mainly in proliferative and degenerative changes in the renal epithelium, and in the exudation into the tubules of a number of colloid globules of all sizes. A few slight patches of blood extravasation were found in the stroma, but were quite insignificant compared with the nature and extent of the parenchymatous changes. Now in this case micro-organisms of different species were found in profusion at the local seat of the disease, and some few in the heart, while, after the most patient search according to modern technical methods, we failed to discover any in the kidneys, liver, or spleen. But the absence in such cases of micro-organisms by no means excludes the influence of some toxic agent circulating in the blood, upon the presence of which we are obliged to fall back for a possible causal explanation, not only of the nephritis, but also of the morbid changes found in the liver and spleen. We have introduced this last case for two reasons. First, because it represents an example of acute nephritis in a disease pre-eminently mycotic in character, and distinctly localised at its commencement, in which the subsequent changes become generalised by the diffusion into the circulation of some toxic agent, not particulate, but probably chemical in its form. Secondly, because certain differences in the finer changes are expressed in the exquisitely catarrhal type of the epithelial changes and in the absence of hæmorrhage into the tubules. Although, therefore, we have not been able to satisfy ourselves as to the presence of micro-organisms in the kidneys of our cases of nephritis, still we are inclined to support its septic character on similar grounds, even if we omitted to search for micro-organisms in the meninges. It seems highly probable that the presence within the kidneys during the process of excretion of certain subtle chemical poisons of the nature of ptomaines or leucomaines, manufactured at the local seat of the disease and absorbed from the meninges, constituted the exciting cause of the tissue change, while the vascular change not improbably owed its origin to some obscure nervous influence directly connected with the meningeal irritation. That disturbances of the vaso-motor system are more or less constant features of meningitis is a recognised clinical fact, and is expressed by the peculiar flushes of the face, and by the "tache cérébrale" so graphically described by Trousseau. The balance of power and reaction between the vaso-dilators and the vaso-constrictors is disturbed, and this may affect the renal blood-vessels equally with those in other parts. When to that influence are added the effects of some poisonous ferment circulating in the blood, and acting directly on the walls of the bloodvessels of organs so essentially eliminative and excretory as the kidneys, it is easy to conceive that the balance of power might be still further disturbed by the changes produced. What the intimate nature of these changes may be is beyond the power of the microscope alone to reveal; the problem is a physico-chemical one, involving grave alterations in nutrition; but certain effects of them we know from Cohnheim's researches—viz., dilatation of the bloodvessels from loss of contractile power in their walls (paresis), their increased permeability, and the ease with which under conditions of increased blood pressure they allow red blood-cells to escape. We think that in this way may be explained the peculiarly hæmorrhagic character of our cases. We have examined the hos-

[2] We may here remark that although one of us has examined now a very large number of examples of acute nephritis, we have never before seen so many fibrinous casts as presented by Case 3. In Case 1 the nephritis is almost in its earliest stage.

[3] See Lepine's Additions à la Traduction Française du Traité des Maladies des Reins de Bartels, Paris, 1884. Also German translation of this, Die Fortschritte der Nieren-pathologie, Berlin, 1884, where this question is discussed, and full references to the literature up to that date are given in the chapter on the infectious forms of nephritis.

pital post-mortem registers for the last five years, and have perused the reports of twenty other cases of meningitis. Fifteen of these were tubercular and the remaining five purulent, but non-tubercular and consequent upon either ear disease or traumatism. In none did we find noted any gross changes of importance in the kidneys; in several instances they were described as somewhat hyperæmic and presenting evidence of cloudy swelling; these were chiefly the non-tubercular cases, in two of which the appearances were confirmed by the microscope, but no intra-tubular hæmorrhage was noticed. In the tubercular cases the kidneys were found of normal size, sometimes pallid and sometimes more or less congested, and in those cases where the tuberculosis was generalised the kidneys were preserved for histological purposes. On looking over some of the sections tubercles were seen, but no such changes approaching those we have just described. Accordingly, it would appear that our three cases are, to say the least, exceptional, and we could not pretend to formulate conclusions based on so limited a number. In our paper we have confined ourselves principally to the statement of facts, and in our attempt to discuss their significance have merely indicated our lines of thought; and should these be deemed worthy of such consideration as to arouse the attention of other observers in the same direction, we shall feel amply justified in their publication. In conclusion, we wish to express our obligations to Dr. Sutton of the London Hospital, and Drs. Wade and Simon and Mr. Bartleet of the General Hospital, Birmingham, for kind permission to use their cases.

Postscript.—Since sending our communication to the press we have met with the record of a case, similar in many particulars to our second, in the *Monatsschrift für Ohrenheilkunde*, 1888, No. 8, by A. Weichselbaum.[4] It is that of a woman aged fifty-two years, who was admitted into the hospital in Vienna in a comatose condition, and died two hours afterwards. The following conditions were found at the necropsy:—Acute rhinitis; purulent otitis media with perforation of the tympanum; ostitis and periostitis of the mastoid process, phlegmonous cellulitis and myositis of the sterno-mastoid on the same (left) side; myocarditis; acute swelling of the spleen; cloudy swelling of the liver; *acute parenchymatous nephritis*, and commencing pneumonia in the lower lobes of the lungs. Bacteriological investigations undertaken immediately after the necropsy showed Friedländer's bacillus pneumoniæ to be the only organism discoverable. It was pretty widely diffused, at least in the local lesions, to which there succeeded, in Weichselbaum's opinion, a general infection of the system, producing the changes noted in the viscera. Thus he believes the origin of the nephritis to be connected either directly or indirectly with the presence of the bacillus in the blood. It will be noticed that no meningitis developed in this case, neither is it mentioned that the nephritis bore a specially hæmorrhagic character.

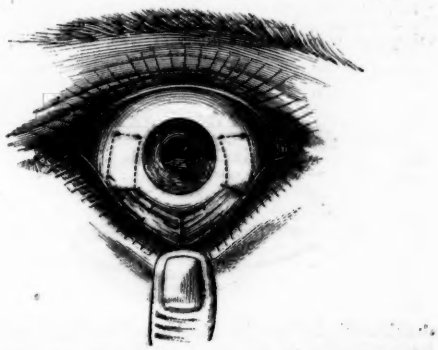
Birmingham.

ON TRANSPLANTATION OF RABBIT'S CONJUNCTIVA TO THE HUMAN EYE.

BY J. R. WOLFE, M.D., F.R.C.S.E.,
PROFESSOR OF OPHTHALMOLOGY IN ST. MUNGO'S COLLEGE; SENIOR SURGEON TO THE GLASGOW OPHTHALMIC INSTITUTION.

WHEN the conjunctiva of the eyeball and the corresponding palpebral conjunctiva are destroyed by gunpowder explosion, by a burn with hot metal, quicklime, or other chemical substance, adhesion or symblepharon is the result. Iron moulders, puddlers, and labourers in chemical works being most exposed to such accidents, cases of symblepharon are frequently met with in towns like Glasgow. Numerous expedients used to be resorted to for the cure of this affection. They all had for their object the mechanical separation of the lid and eyeball, until the raw surfaces cicatrised. This surgeons tried to effect by repeated dissection and by keeping the surfaces apart by the interposition of foreign bodies, such as sealing-wax, leather, or glass shields. After repeated trials such measures were found useless. They are based on the supposition that a delicate physiological action can be replaced by a coarse mechanical contrivance. Abhorring friction of surfaces, nature frustrates such expedients, for, whenever the surfaces rub upon each other, they adhere and the foreign body is squeezed out by gradual constriction. I first used to try the radical cure of symblepharon by plastic operation of the conjunctiva. The operation consisted in taking a portion of the neighbouring healthy conjunctiva of the eyeball, and with it replacing the palpebral conjunctiva which had been destroyed. For experience has taught me that loss of the ocular conjunctiva, even to a very large extent, is generally regenerated without prejudice to the neighbouring tissues, whilst loss of the conjunctiva of the eyelid is followed by pannus, ulcerated cornea, and other lesions. (Fig. 1.) Fig. 1 represents the case of Simon M'K——, aged twenty, moulder, who, three years before he came under treatment, had his eye burnt with molten lead, resulting in adhesion of the lower eyelid, which covered the lower half of the pupil. I dissected the eyelid from the eyeball, separating it as far as the cul-de-sac, liberating the eyeball completely. I then passed two fine silk threads through each side of the conjunctiva at the outer aspect, which ligatures marked the breadth of the conjunctival flap to be removed. These two I put on the stretch, and with a pair of scissors I first cut horizontally, and then on each side of the ligatures; then putting the scissors behind, I cut it from the eyeball. The same process was followed on the inner side, and these two flaps were brought together in the middle line and secured with stitches, as marked in the diagram. The operation

FIG. 1.



was performed in September, 1869, and the case was shown some months later as a successful one in every respect.

Mr. Teale of Leeds introduced an operation similar to my own, and yet different from it in this respect: from each side of the ocular conjunctiva he takes a flap; "the one is stitched across the raw surface of the eyelid, and the other is fixed across the raw surface of the eyeball, and the two flaps are thus dovetailed into the wound." It is evident that in this operation a large supply of conjunctiva is requisite to repair a comparatively slight injury, while in my operation the conjunctiva of the eyeball is entirely disregarded, and the palpebral conjunctiva alone repaired. The result is that while Mr. Teale interferes only with a case of symblepharon, "provided it be of moderate extent,"[1] my operation is applicable to extensive adhesions, provided only that there be sufficient transparent cornea to make an artificial pupil, as shown in Fig. 2, which represents the case of John M——, aged fifteen, tinsmith, who had burnt his right eye with strong hydrochloric acid two years before, with the result of extensive symblepharon. The lower eyelid was covering the upper margin of the pupil; vision was therefore impossible. The first step accordingly was to make an iridectomy upwards and inwards, and two months later we proceeded to the plastic operation of the conjunctiva. But it will be seen that the lateral flaps were in this case impossible, because the lower extended above the meridian. I therefore took a large flap from the upper hemisphere of the eyeball, and secured it upon the eyelid, as above described.

There is a limit, however, to the extent to which we can go in borrowing conjunctival substance from an eye which has been previously injured. If we surpass that limit the

[4] Ueber eine von einer Otitis Media Suppurativa Ausgehende, und durch den Bacillus Pneumoniæ bedingte allgemeine Affection.

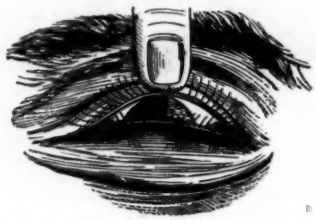
[1] Ophthalmic Hospital Reports.

corneal opacity may extend still further and our last chance of saving vision is lost. Indeed, we sometimes meet with cases in which the infliction of a new wound amounts to further disorganisation of the eye. As the operation already described is inapplicable in such cases, I was at one time

FIG. 2.

about to give up all idea of surgical interference, when i occurred to me that I might give the patient some chance by supplying him with conjunctival substance from the rabbit. One such case is represented in Fig. 3. Edward M'K——, aged thirty-one, iron-smelter's labourer, was, on Sept. 17th, 1872,

FIG. 3.



struck on the left eye by a ball of red-hot iron which caused disorganisation of the lower conjunctiva over the greater part of the cornea. On lifting the upper eyelid with the finger the sclerotic was seen, as it were, receding, and no dragging upon the eyeball could turn the upper border of the cornea sufficiently forwards and downwards even for making an iridectomy. The attempt to take a conjunctival flap from the upper hemisphere of the eye, as done in the previous case, was altogether out of the question, for there was no room to manipulate either with scissors or bistoury. In the same year I showed to the Glasgow Medico-Chirurgical Society this case, as my first successful case of transplantation. In August, 1875, I exhibited the same case along with another at a demonstration which I gave to a large audience at the annual meeting of the British Medical Association in Edinburgh. The second case was that of Peter Campbell, which shall be described presently. This operation has been generally adopted by surgeons of various countries. It is, in fact, due to the favourable results of transferring conjunctiva from the rabbit to the human eye that surgeons have become familiarised with the idea of borrowing tissues from the lower animals, and the principle has been further developed by the transplantation of nerve tissue from the rabbit to the human subject.[2] I deem it therefore necessary that the details of conjunctival transplantation should be well understood, for upon attention to these details the success of the operation depends.

At the meeting of the British Medical Association in Glasgow in 1888, I had another opportunity of performing an operation in one case, and of showing another operated on five days previously, to enable those who were present to judge of the hopeless condition of an extensive symblepharon before and the results obtained after transplantation from the rabbit. This was the more necessary as, since first recommending it to the profession, I have considerably modified the procedure and rendered it more simple. From the account given in the journals of that date I extract the following:[3] "At the close of the meeting of the Ophthalmological Section on Aug. 10th, Dr. Wolfe gave a second demonstration at the Ophthalmic Institution, which was attended by London and foreign oculists. The subject was symblepharon; one operation was performed, and a patient operated on five days previously shown. In the case operated on, the lower lid was adherent to the eyeball, for the greater part of its extent the angle only being free. . . . The operation being successfully completed, the patient previously operated on by the same method was shown. One accident had completely destroyed the right eye, the left was also extensively damaged, only a small part of the cornea towards the lower and inner angle being transparent. An iridectomy had been performed there, and the extensive adhesions of both upper and lower eyelids rendered it nearly valueless. When the adhesions had been cut through, very extensive raw surfaces were found on both lids, on both of which the rabbit's conjunctiva had been implanted; and when the patient was shown, no doubt remained of the success of the operation. The eyeball was comparatively free and sight was good. In showing the patient, Dr. Wolfe commented on the fact that it was fifteen years since he introduced this operation, and in spite of the fact that the rabbit's conjunctiva gave perfect results, efforts to transplant mucous membrane from the human subject, from the mouth and even vagina, were being made."[4]

The operation is performed in the following manner:— 1. I first separate the adhesions by means of blunt-pointed scissors, so that the eyeball can move in every direction. The conjunctival sac and cornea are cleared of nodules, so as to obtain an even surface. 2. Two rabbits are then put under chloroform, one being kept in reserve in case of accident. 3. I take from the rabbit that portion of the conjunctiva, which lines the inner angle covering the "membrana nictitans," and extending as far as the cornea, on account of its vascularity and looseness. If the palpebral opening is too narrow, I enlarge it at the external angle, and introduce a ligature through the whole thickness of the free border of the lower lid, and by means of this ligature the lid is drawn open and kept steady, and the conjunctival cul-de-sac exposed. 4. Into the middle of the flap to be removed a black silk ligature is introduced, a knot is tied, and the ligature cut short. This knot is intended to mark the epithelial surface of the membrane, for without it the flap is apt to curl up, and leave us at a loss how to adjust it. 5. Next, I mark the boundary of the conjunctiva of the rabbit which I wish to transplant by inserting four black silk sutures, which I secure with a knot. The ligatures having been put on the stretch, I separate the conjunctiva to be removed with scissors, and, by means of a fine spatula, I spread it upon the back of my left hand. The four ligatures are then cut off, and the conjunctiva trimmed to the requisite size. It should be larger than the lost substance. 6. I now return to the patient, and see that the bleeding has subeided, and that the parts are in a fit condition to receive the transplanted flap, which has in the meantime become dry like a piece of parchment, and adherent to the dorsum of the hand. 7. It is then lifted by means of a spatula, and transferred to replace the lost conjunctiva of the patient. It is secured in its place by six or eight ligatures, or even more if necessary. This is a very difficult process, requiring delicate manipulation, and the assistant must keep the flap in its place by a spatula while it is being

[2] Nerve transplantation from animal to man. A novel operation is reported from Vienna as having been performed by Dr. Gersung on the person of Professor von Fleischel, who accidentally wounded himself sixteen years ago while performing a post-mortem examination. The result was severe inflammation of the right upper limb, which was followed by the formation of neuromata on various branches of the median nerve, to relieve the pain of which resection of the nerve at various sites was resorted to, causing anæsthesia of the parts supplied by it. Fresh neuromata, however, occurred, and finally the pain became so severe that a further operation became necessary. On March 4th the patient was anæsthetised, and the neuroma, which was situated behind the volar-carpal ligament, was excised. A piece of the sciatic nerve of a freshly killed rabbit was then obtained and sutured to the end of the cut nerve and to the connective tissue between. Healing took place by first intention; and as two months have now elapsed since the date of the operation and the pain has not returned, it is hoped that the so far favourable result will prove to be permanent. Sensation is gradually returning in the anæsthetic areas.

[3] Medical Press, 1888.

[4] Prof. Snellen (Utrecht) has lately brought before the notice of the Ophthalmological Society a new operation—viz., dissecting a flap from the cheek, drawing it through a buttonhole made in the eyelid, and attaching it to the raw surface of the lid.—THE LANCET Nov. 23rd, 1889.

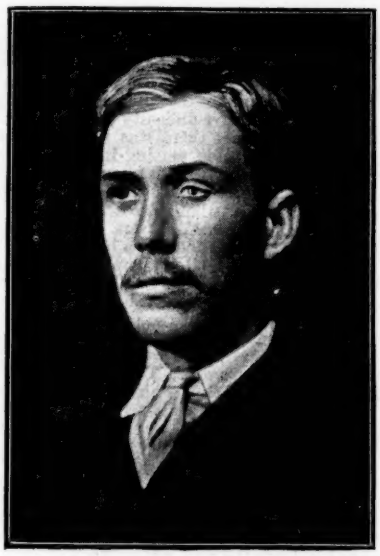
stitched in its new place. Both eyelids are closed with lint and a bandage, and kept so for four days. The ligatures are left in for six or eight days.

With regard to the patient, it must be borne in mind that it is a tedious operation, so that it is impracticable to administer chloroform. To young subjects I administer it only during the first stage—i.e., during the separation of the eyelid; for the remainder of the time moral suasion must be resorted to. In cases of grown-up people I generally perform the operation without anæsthetics.

The following case is very interesting, as it marks the transition from the old to the new method of procedure—symblepharon and anchyloblepharon (total) cured by transplantation from the rabbit (July, 1883).

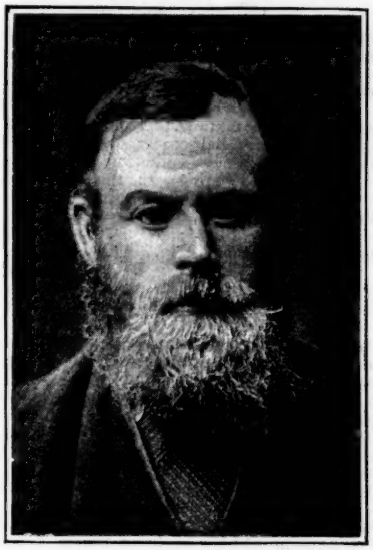
Jeremiah J——, steelworker, aged twenty-two, got his left eye burned by a flash of slag from the forge hammer nine years ago. He was under treatment at Workington for four months, after which he was sent to the Manchester Eye Infirmary. Here (he states) attempts were made to keep the eyelids apart by means of strings and lead and a ring round his nose. When he came to the Glasgow Ophthalmic Institution, on March 17th, 1883, the eyelids were completely closed, the free borders of the lids were obliterated, so that the dissection of the upper and lower lids from the globe

FIG. 4.



was effected with great difficulty. "Buried under the lids" is an exact description of the state of the eye in this case. When the lids had been dissected, we found that only the upper and outer quadrant of the cornea was transparent; the rest was quite opaque. By means of ligatures inserted into them the lids were kept separate, and an artificial pupil was formed in front of the transparent cornea. The symblepharon was subsequently remedied by transplanting conjunctiva from the rabbit. The conjunctival sac is now free through its whole extent. The eye is movable in every direction; vision is restored. Fig. 4 is the photograph taken of the patient after the operation. This method of conjunctival transplantation has been practised successfully by Professor Otto Becker (Heidelberg), Professor Albrech Graefe (Halle), Professor de Wecker (Paris), and Marc Defour (Lausanne). Among American surgeons, Dr. Noyes (whose cases amounted to about a dozen) first applied this operation to the formation of the conjunctival sac for the purpose of fitting in an artificial eye, when the natural cavity had become contracted; but Professor Cohn of Breslau had previously performed the operation for the same purpose. There is one question, and that a most essential one—namely, as to the durability of the operation. It is satisfactory to make a conjunctival sac, but how long will it last? Do the surfaces by constant friction tend to adhere? We frequently have an opportunity of examining patients long after the operation, and have always found them satisfactory. This photograph (Fig. 5) of Peter C——, whom I exhibited at the Edinburgh meeting in 1875, was taken eight years after the operation, and in his

FIG. 5.



P. C—— is a remarkable patient. The injuries which he had sustained to both eyes and eyelids were extensive, so that I had to practise in his case several operations before his eyes were rendered serviceable and his face presentable. Left eye: 1, Artificial pupil; 2, conjunctival transplantation from the rabbit. Right eye: 1, Paracentesis for supposed hypopion; 2, skin-grafting on upper eyelid; 3, plastic operation on lower eyelid.

case the conjunctival sac is still as perfect as it was then. Both eyes are good. He has been all the time working at the quarries.

TWO CASES OF DIPHTHERIA.

A SUGGESTION AS TO TREATMENT.

BY W. TONGE-SMITH, M.D.

CASE 1.—This case seems a curiosity, and as such is worth recording. Florence H——, aged sixteen years; father a watchmaker. She was first seen on the evening of June 25th, 1884. She became so ill and weak about noon that she was unable to stand in the shop, and had to go to bed. She did not feel quite herself the previous evening, suffering from chilliness, headache, and nausea. These continued. She experienced severe frontal headache; expression dull and heavy; lumbar pain, extending up the right side to the shoulder; tongue large, flabby, and thickly furred; bowels confined; pain over abdomen on pressure; dysuria; "regular"; physical examination of chest &c. reveals *nil*; urine acid, sp. gr. 108; albumen one-third; pulse 126, not hard; temperature 101·6°; respiration 30. The patient was ordered slops, hot bath, and castor oil.—26th (morning): Bowels acted after the oil; felt more comfortable after the bath. Lumbar pain better, but headache worse; other symptoms the same. Now complains of severe sore-throat; has had it slightly for a day or so. Examination shows a dirty white membrane over both tonsils, back of pharynx, and edge of velum, cleaning from right tonsil, and on this side the glands are swollen and tender under jaw. No rash. Urine still albuminous. Temperature 101·4°; pulse 112. Has been staying at Hackney with a sister, who and whose children have had

sore-throats. Ordered lime-water spray, and internally sulpho-carbolate of lime. Evening: Pains gone; the throat the same. Temperature 102·6°; pulse 126.—27th (morning): Feels better; throat cleaning. Temperature 100·2°; pulse 100. Albumen one-sixth; no blood. Evening: Temperature 100·8°; pulse 100.—28th: Better, only weak; throat clean. Temperature 99·8°; pulse 98. A trace of albumen.—29th: Faint trace of albumen. Temperature 99°; pulse 91, not regular. Heart sounds normal.—30th: Stronger; no albumen. Temperature 98·4°; pulse 84, still slightly irregular. Tonics were prescribed. The patient now seemed convalescent, was recovering strength, and was placed at the window daily to inhale fresh air.—July 4th: Everything returned. Urine albuminous. Temperature 101·8°; pulse 100, irregularity more marked. Thick yellowish membrane, like an elongated half-crown, over both tonsils &c., terminating abruptly; tissues bordering it tumid and red. Spray &c. resumed. Evening: In the same condition. Temperature 102°; pulse 90.—5th (morning): Throat cleaning. Albumen present. Temperature 99°; pulse 70. Evening: Temperature 100·8°; pulse 70.—6th: Pieces of membrane at circumference only. Albumen gone. Temperature 99·8°; pulse 70.—7th: Better. No albumen. Throat clean. Temperature 99·4°; pulse 67, still irregular.—8th: Better in every way. No albumen. Temperature &c. normal; pulse the same. All went well, though strength was slowly gained. No sign of paralysis was ever noted, but the girl sometimes *thought* "food would return by the nose."

CASE 2.—J. H. A——, a short, slim lad of eight years and fair complexion, was admitted into the London Fever Hospital on Nov. 1st, 1882, having suffered from malaise and slight sore-throat for five or six days, and now complaining of increasing weakness. On the left tonsil was seen a white patch the size of a shilling, of fair consistence, quite adherent, and with a well-defined margin; surrounding tissues red and slightly swollen. There were pain, tenderness, and some fulness at the angles of the jaws, especially the left jaw. Tongue furred; bowels confined. Temperature only slightly raised. Pulse good, regular, and only slightly quickened; heart sounds normal. Respiration hurried, and accompanied by much hacking cough—both having well-marked laryngeal characters; air entering lungs very well. No cyanosis. He was ordered nourishing diet &c., and the chlorine spray.—4th: No membrane in throat; otherwise the same. Laryngeal symptoms still pronounced.—8th: Boy bright and cheerful, but stridor &c. worse. Has had three attacks of dyspnœa, a rather severe one last night at eleven o'clock, but it passed off and the lad slept peacefully. Albumen has appeared in the urine. Has been slightly sick. Ordered ten grains of ipecacuanha powder till sick.—9th: Sick after the first dose of ipecacuanha, but no membrane recognised in vomit. Passed a good night. 10 A.M.: Reported to have just "had a spasm; became blue, and almost choked." Found to be decidedly cyanotic and distressed; voice nearly gone; pulse rapid and feeble; boy mentally excited; air enters lungs badly—retraction; improved gradually. At about 10.30, another attack coming on, I immediately performed tracheotomy, a large quantity of membrane being coughed up. The boy improved at once, the pulse becoming slower, steady, and stronger. Flannels wrung out of hot water were laid over the tube, and lime-water was sprayed directly over the tube at short intervals.—10th: General state excellent. No cyanosis. No sign of heart failure. Lungs healthy; breathing easy; much membrane is coughed up; and a thick creamy discharge exudes constantly from the wound and is coughed up.—12th: After this no more membrane as such was brought up, but the creamy discharge was most copious.—16th: Discharge less and much thinner.—17th: Discharge little and watery. Some cough still and laryngeal voice. Tube removed; comfortable without it. Spray left off. Tonics ordered.—20th: No albumen; no sign of paralysis. Wound healthy. Got up. Towards the end of December the boy was discharged well, the wound being quite healed and represented by a scar three-quarters of an inch long by a quarter of an inch broad. This case is recorded to direct attention to what seems to me to be a solvent action of lime-water upon diphtheritic membrane. I now use the saccharated solution, and alternate it with an antiseptic. Out of twenty cases so treated I have only lost one, and that due clearly to heart failure. I would also draw attention to the simplicity and efficiency of covering the tube lightly with a layer of flannel wrung out of hot water and frequently changed, thus avoiding scalding, damp bed, and other evils of tents and kettles. Some antiseptic also may be dropped on the flannel.

Warkton, Kettering.

ON TWO RAPIDLY FATAL CASES OF DIPHTHERITIC PARALYSIS.

BY F. FOORD CAIGER, M.D. LOND., D.P.H. CAMB.

THE fact that the great majority of cases of diphtheritic paralysis end in complete recovery has an undoubted tendency to make one under-estimate the danger which may underlie even the most trivial instance of the disorder. The following two rapidly fatal cases have served to emphasise this fact in my mind.

C. R——, a gardener, aged twenty-five, was attacked on May 22nd with ordinary pharyngeal diphtheria. There was nothing noteworthy in the attack except that the membrane was somewhat unduly persistent, the tonsils not clearing till the thirteenth day. His temperature reached the normal on the ninth day. There was no albuminuria and but slight glandular implication, nor was the illness followed by undue prostration. After a few days in the country he resumed his employment.

On July 1st, having finished his day's work, he again presented himself, saying that he felt very unwell. The man was so obviously ill that he was at once readmitted to the hospital. According to his account he had never felt really strong or well since the illness. About six days previously he began to have difficulty in speaking plainly, and afterwards noticed that there was increasing difficulty in swallowing, the food often getting into the air passages or returning through the nose, with frequent fits of choking. Had felt numbness in the fingers and feet for the last two days, but was able to do his work, though greatly fatigued thereby. When admitted, at 6.30 P.M., it was extremely difficult to understand what he said, phonation being very imperfect and the voice hoarse and nasal. There was great difficulty in swallowing either liquids or solids, frequent shallow hoarse cough, with inability to clear his fauces. The vocal cords were seen to be lying in the cadaveric position, and moved but slightly towards the mid-line. The larynx was anæsthetic. Muscular power in arms weak, and tingling in feet. Patellar reflex *exaggerated*. Temperature 103 6°; respiration 40, shallow and jerky. Pulse 120.—2nd: Passed a restless night. Complete inability to swallow; fed with soft stomach-tube. Voice inaudible. Repiration 48, shallow and noisy. Diaphragm acting very feebly, if at all. Face dusky, sweating. Pulse 120, regular. Patellar reflex *absent*. Analgesia in legs, but can feel cutaneous pressure. During the afternoon the sweating continued; cyanosis became more marked. Pupils dilated. Respiration over 50, very shallow. Died quietly at 5.45 P.M. Twenty-four hours before his death the man was at work.

The second case occurred in a child aged five years. C. D——, admitted on Aug. 28th with faucial diphtheria, complained of sore-throat and vomited the day before. The case was a severe one, characterised by abundance of exudation on tonsils and pharynx, much glandular swelling, rhinorrhœa, and great prostration. On Sept. 6th he had a severe syncopic attack, but rallied under stimulants. The membrane in this case, too, was very persistent, the throat not becoming free until the sixteenth day. The temperature reached the normal on the eighth day, and afterwards was usually subnormal. There was slight albuminuria from the first, which remained as a nearly constant trace throughout the illness. With the exception of some paralysis and loss of reflex in the palate and a certain amount of glandular swelling, the ensuing convalescence presented nothing unusual. On the 17th it was noted that the voice had quite lost its nasal tone. On the 20th the patellar reflex disappeared; the palate was anæsthetic. No motor paralysis observed. On October 2nd food was noticed to return through the nose. Palate immovable; no reflex. Bilateral ophthalmoplegia externa especially affecting the right internal rectus, which was quite paralysed. Accommodation sluggish; irides react to light. Walk very "groggy"; patellar reflex absent.—14th: Double ptosis, most marked on the left side. Albuminuria slight; child sitting up in bed playing with its toys.—

15th: Inability to swallow; voice indistinct; dyspnœa. Ocular paralysis complete. The legs and back appear very weak; cannot support himself in a sitting posture. No resistance to passing the stomach tube. Diaphragm not acting; thoracic respiration feeble (40 to the minute); inability to cough; restless and sweating; pulse 100, regular. Towards evening cyanosis became marked. Temperature 99·8°; respiration over 50, shallow and noisy. Died at 11 P.M., the pulse being perceptible for some time after respiration had ceased.

It is remarkable that in both instances, although paretic symptoms were present for about a week before death, yet it was only within the last thirty-six hours that the cases took on a serious aspect and proved fatal by respiratory paralysis. The symptoms pointing to an affection of the vital functions occurred during the late stage of convalescence—viz., in the fifth and sixth week,—a time when it is more usual to find a form of paralysis mainly characterised by an affection of the spinal nerves supplying the limbs. In both cases the faucial affection was severe, the membrane being very persistent. This is in accord with my own experience—viz., that it is the severe cases which are most frequently followed by subsequent paralysis, the mild ones usually escaping altogether. I believe that in a good many cases of paralysis which are diagnosed to be of diphtheritic origin the original attack of diphtheria is accepted on insufficient evidence; the statement elicited from the patient or his friends that he has had a sore-throat some weeks previously (in one case I remember it was three months) being taken as sufficiently conclusive evidence that it was an attack of diphtheria, whereas the case might with equal propriety be referred to the operation of some other cause of which we are ignorant. Cases of peripheral neuritis of alcoholic origin may be the type of a wider series, and they certainly bear a close clinical analogy to diphtheritic paralysis.

I have been repeatedly struck by the fact that those cases of diphtheria which during the acute stage present a large amount of mucoid secretion at the back of the pharynx, accompanied with rhinorrhœa, are of the most grave kind, and rapidly reach a fatal termination. The increased secretion, however, is probably only apparent, the accumulation being due to retention, and is a sign of the oncoming paralysis of deglutition, which quickly becomes associated with laryngeal affection and cardiac or respiratory failure. It is this paralysis of early onset, affecting as it does the vital functions, which is so frequently fatal, and tends, I think, to support the view, adopted by Hilton Fagge on the theory of a "neuritis migrans," that there is direct association between the local process and an affection of the nuclei of origin or of the nerve trunks emanating from the medulla and floor of the fourth ventricle, from some of the peripheral fibres of which the diseased surface derives its innervation.

Fever Hospital, Hampstead.

CASES OF LITHOLAPAXY IN CHILDREN.

BY LEWIS W. MARSHALL, M.D.,
SURGEON TO THE CHILDREN'S HOSPITAL, NOTTINGHAM.

THE following list of cases occurring in my practice may prove of service as an addition to those already published by others. The cases are taken in the order of their occurrence. The earlier operations were done at a time when it was extremely difficult to obtain lithotrites of the size required, owing to the great demand for them. As a result, some operations were ultimately completed by lateral lithotomy.

CASE 1.—W. H. W——, aged three years, was admitted on Nov. 12th, 1887. The calculus was measured (?) by palpation, and believed to be about the size of the last phalanx of the index finger.—20th: Chloroform given. No. 5 lithotrite introduced, but considerable time was lost in endeavouring to catch the stone; twenty-seven grains only removed by one crushing. The boy being a good deal collapsed, it was deemed wiser to send him back to bed. Some bloody urine was passed, and the temperature rose for a day or two afterwards. Much more pain and straining.—28th: Chloroform again given. The same lithotrite introduced twice; also a No. 6 evacuator. Four ounces of warm boracic lotion were injected before the introduction of the lithotrite. The buttocks were much more raised. This operation took forty minutes. The patient was sounded afterwards, but no piece was felt.—30th: Got up, but had a slight rise in temperature afterwards.—Dec. 20th: Went home.—July 25th, 1888: Readmitted with stone symptoms.—Aug. 24th: Chloroform given, and a calculus was felt and crushed by a No. 5 lithotrite after two introductions. Operation lasted fifty minutes; sixty-four grains removed.—28th: Got up, having been quite free from pain or symptoms since the crushing.—Sept. 1st: Discharged cured.

CASE 2.—W. H——, ten years of age, was admitted on Dec. 17th, 1887, with a history of "stone" symptoms for three months. On Jan. 1st, 1888, a No. 6 lithotrite was passed, and the stone was readily caught. The calculus was then found to be larger than had been previously estimated. The lithotrite strained in attempting to "crush," and was withdrawn with some trouble. A No. 10 evacuator had previously been introduced after slitting the urethra. No further attempt was made on this occasion, because the only lithotrite in hand was rendered useless. — 8th: A No. 10 lithotrite was lent by Messrs. Weiss, and attempts made to introduce it. This failed. Lateral lithotomy was therefore done. The stone was found in two halves; it weighed five drachms, and was very hard. This case did very well, and remains so.

CASE 3.—H. S——, aged two years and a half, was admitted on May 19th, 1888, with a history of symptoms for two months.—28th: Sounded under chloroform, and stone gauged by palpation to be round and about the size of a hazel-nut.—29th: Chloroform given. A No. 6 evacuator passed; two ounces and a half of warm boracic lotion were injected into the bladder after withdrawing the urine. A No. 5 lithotrite was introduced, and the stone easily caught; it was soft and easily crushed, and almost entirely removed by the first introduction of the evacuator. The lithotrite was passed a second time and a small piece pulverised and afterwards removed by the same evacuator.—31st: Got up and was quite well.

CASE 4.—G. A. G——, aged four years, was admitted on June 2nd, 1888, with a history of three months' pain.—17th: The stone measured by palpation and believed to be about the length of the last phalanx of the index finger.—21st: Chloroform. A No. 9 evacuator was passed the first time. A No. 5 lithotrite was passed, but the stone being found to be hard and larger than was expected, an old French lithotrite (the only one available) replaced it. A smaller evacuator had to be introduced on account of the swelling of the urethra. The boy became collapsed after the removal of 97 grains.—Aug. 24th: Lateral lithotomy done, and the remainder of the calculus removed; it weighed 226 grains, the sum total being 323 grains. The boy recovered quickly.

CASE 5.—E. C——, aged two years and ten months, was admitted on Oct. 27th, 1888. He had always had difficulty in passing his urine.—Oct. 28th: Meatus found to be very small; enlarged, therefore, under cocaine.—30th: The symptoms being unrelieved, a sound was passed. A calculus was found and described in the following words—viz., "Flat, ovoid, and about an inch in length." This opinion was formed by palpation.—Nov. 11th: Chloroform was administered. A No. 5 lithotrite could not be passed after slitting up the urethra still further. Lateral lithotomy was performed, and the boy did well. The calculus was found to be three-quarters of an inch long, ovoid, and with flattened surfaces.

CASE 6.—H. W——, aged eight years, was admitted on March 27th, 1889. Pain &c. for two years. The calculus was measured by palpation, and described as flat, ovoid, and about an inch in size.—April 8th: A No. 9 evacuator was passed, and a No. 8 lithotrite afterwards. Boracic lotion was injected. Two crushings only were performed. The time occupied was thirty-seven minutes. Weight sixty-seven grains.—Nov. 11th: The boy sat up in bed; he had passed a few pieces the day after the operation.—13th: Was riding a rocking-horse in the ward.

CASE 7.—G. W——, aged seven years, was admitted on Aug. 7th, 1889. Pain for one month only. The patient was sounded and stone felt to be "light and small."—14th: Chloroform was given and the urethra slit up. A No. 8 evacuator was introduced to inject boracic lotion. A No. 8 lithotrite was passed, and crushing completed in seven minutes. A No. 10 evacuator was introduced, and the whole stone removed; it weighed one scruple. The time occupied in performing the operation was twenty-seven minutes.—16th: Got out of bed.—17th: Discharged cured.

CASE 8.—A. J——, aged seven years, was admitted on Aug. 14th, 1889, giving a history of an injury to the perineum two years before; painful micturition since then. Catheter passed and a calculus found; urethra sufficiently large to admit a No. 7 catheter.—18th: Chloroform. Stone gauged to be about the size of a hazel-nut. A No. 8 evacuator passed and the bladder injected. A No. 8 lithotrite introduced, and first crushing occupied twelve minutes. A No. 5 lithotrite afterwards used to complete the crushing. The whole operation occupied thirty minutes. The stone was hard and crushed at first with some difficulty; it weighed forty grains.—19th: Passed a small piece during the night.—20th: Discharged cured.

Remarks.—I have published this entire list of cases because they record fully my first attempts to do litholapaxy. They emphasise the rule laid down by those who have had much experience in this operation in children, that it is essential the surgeon should be well supplied with lithotrites. Happily now we need have no difficulty about this. It is also made clear that the measurement of the stone by palpation is not easy at first. Lithotomy, whether supra-pubic or lateral, is likely to be much less frequently done than in the past.

Nottingham.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

CARBOLIC ACID IN TYPHOID FEVER.

BY E. ATHERDEN THOMPSON, L.R.C.P., M.R.C.S.

THE following case may be of interest as evidence of the abortive power which has been ascribed to carbolic acid in typhoid fever. The patient, a young man aged twenty-one, lived in a house at which I had, during the early part of the present year, attended two consecutive cases of this disease. On being summoned I elicited a history of well-marked premonitory symptoms, including pains in the back and limbs, severe headache, lassitude, anorexia, vomiting, and rigors. On physical examination I found tenderness on pressure in the right iliac region, accompanied by gurgling and tympanites. Temperature 103·4°, pulse 95, tongue furred, patient apathetic and drowsy. I ordered the usual strict dieting, and prescribed a mixture containing minim doses of carbolic acid and two grains of quinine to be taken every four hours. On the second day of attendance I found the patient much better. Temperature subnormal; bowels, which had been somewhat constipated, relieved by a single foul liquid motion; no aperient had been given. For the following three days the temperature continued to be subnormal, although I had discontinued the quinine; it then gradually approached the normal, and never again rose above it. Beyond the appearance, on the fourth day of attendance, of a few somewhat equivocal rose-coloured spots on the back and abdomen, the characteristic eruption was not developed. By the seventh day all symptoms had disappeared, with the exception of occasional pain and a little tenderness on pressure in the iliac region. Taking together the well-marked premonitory symptoms, the condition of the patient when first seen, and the fact of two cases having previously occurred in the same house, I think I was justified in diagnosing typhoid fever, and in attributing its arrest and cure to the administration of carbolic acid.

Kirkham, Lancashire.

EXTRA-PERITONEAL FAT SIMULATING HERNIA.

BY W. THELWALL THOMAS, L.R.C.P. ED., &c.

THE following condition was met with in the anatomy rooms a few days ago, and appears of interest surgically. A well-developed male body was noticed to have a small swelling above Poupart's ligament on the right side, which could not be diminished by pressure, and was apparently in the inguinal canal. On removing skin and fascia the bulging was more pronounced, and was now seen to be entirely in the inguinal canal; on opening which a rounded portion of fatty tissue was found lying on the spermatic cord, which was flattened to accommodate it. The mass was polypoid in shape, about two inches long and an inch and a half across its free extremity; the neck could only be seen on drawing it down from the abdomen; the fat was very soft, and on its posterior aspect a thin fibrous cord was formed, but no covering as of peritoneum existed. On examining the interior of the abdomen, a short omentum was found, and perfectly free. The peritoneum over the inguinal region was without pouching; therefore the fat was certainly not omental. In this region and on each side of the pelvis there were well-marked eminences, due to enlargement of portions of the extra-peritoneal fat; and on making a section into the inguinal canal, the mass of fat discovered here was continuous with, and part of, one of these enlargements. One can imagine how such a condition so marked as to give rise to a distinct swelling externally would undoubtedly have been "cut down upon" if any symptoms of intestinal obstruction had manifested themselves. In fact, the appearance was one of well-marked bubonocele.

Liverpool.

DEATH THROUGH IMPACTION OF A PEA IN THE BRONCHUS.

BY E. F. GRÜN, M.R.C.S., L.R.C.P.

ON Oct. 25th M. D——, a child aged two years, was playing with some peas, three of which she placed in her mouth. A fit of coughing took place, and one pea was missed. Whether the child had swallowed the pea or not was uncertain. Air entered freely into both lungs and there was no dyspnœa. For a period of four weeks the child continued in fair health, but died suddenly in her cot on Nov. 28th. At the post-mortem examination a pea, soft and swollen, was found in the trachea at its bifurcation. It had evidently been impacted at the commencement of the left bronchus. The left lung was solid and fibrous; there was a good deal of mucus in the tubes, but no breaking down of lung tissue. At the apex there was considerable emphysema, and at the base adhesions of the pleura to the diaphragm and chest wall. The right lung was perfectly healthy. Other organs all quite healthy. The question is, could anything have been done to save the child's life if it had been possible to diagnose the presence of the pea in the right bronchus? In this clinical experiment, accidentally brought about, it is interesting to note that the result of impaction and occlusion of the bronchus was to produce emphysema and also pleuritic adhesion, with a general increase of fibrous tissue throughout the lung, but with no inflammation or actual destruction of lung tissue. Death, I believe, was caused by the pea becoming dislodged and occluding the right bronchus, thus producing instant suffocation.

Putney, S.W.

A CASE OF OLD UNREDUCED DISLOCATION OF HIP.

BY G. MICHELMORE, M.R.C.S., &c.

THE following may be cited as showing the irreparable damage done by neglecting to obtain advice in surgical cases. A. B——, a fine healthy girl ten years of age, was brought by her mother to the out-patient department of the infirmary, on account of the right leg being very much shorter than the left, which was causing the child some inconvenience in walking. The history of the case was that the child had a fall from its cradle in infancy, and a short time after the accident the mother noticed that the right leg did not appear to be of the same length as its fellow, but took no further notice of it. On making an examination, I found a well-marked dislocation of the right hip backwards on to the dorsum ilii. The head of the femur had accommodated itself wonderfully well in its new position, and the movements of the limb were free and easy, especially flexion and extension; but on comparing measurements with the sound side, I found a shortening of two inches and a half. Considering the number of years that had elapsed since the accident, and the changes that must have taken place in the acetabular cavity, no attempt at reduction was made.

Tiverton.

A Mirror
OF
HOSPITAL PRACTICE,
BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Procemium.

ST. THOMAS'S HOSPITAL.

A CASE OF POISONING BY FOUSEL OIL; RECOVERY; REMARKS.

(Under the care of Dr. ORD.)

LITTLE has hitherto been known of the poisonous effects of fousel oil or, as it is also called, oil of grain and potato spirit, and the following account is a most important contribution to toxicology, for no accurate record of an undoubted case is known. A child on two occasions became partially comatose, and had livid lips and a feeble pulse after eating some confectionery, which, it was calculated, contained one drop of the essence used to give the flavour of the Jargonelle pear to it.[1] Experiments on animals has led to the conclusion that fousel oil is a powerful poison, especially if breathed in the state of vapour.[2] Guy and Ferrier[3] state that it acts as an inebriant, whether swallowed or inhaled, causing headache, giddiness, and staggering gait. Its toxic effects on man are said to be more powerful when taken in the state of vapour than when taken into the stomach, and it is interesting to note the effect of the fumes exhaled from the patient on those in attendance. Another point of note is the penetrating odour of the fumes, which filled the large ward in which the patient was placed, making it smell of bad spirit for some days. A condition somewhat similar to that described below, and due to the action of naphtha, is to be found in our columns. A boy, twelve years of age, took about three ounces of naphtha, became insensible with a sallow and clammy skin, followed by complete muscular relaxation, with a fixed state of the eyes and progressive difficulty in breathing, ending in death within three hours, although vigorous treatment was employed.[4] For the following report we are indebted to Mr. T. P. Cowen, house-physician.

T. S——, aged sixty-four, a coal-porter, was admitted to George ward, St. Thomas's Hospital, on Oct. 31st, 1889, under the care of Dr. Ord. At 5.30 A.M. on Oct. 31st the patient entered a public-house and ordered some beer. While drinking this he noticed under a seat a small champagne bottle which was full of some spirituous liquor; liking the smell of this, he drank several times from the bottle, taking about half a quartern each time (amount as estimated afterwards quite half a pint). He felt no ill effects, and resumed work until 10 A.M., when he became unconscious. He was brought to the hospital at 12.30 P.M., being quite unconscious; lying on his back, the muscles of the arms and legs were somewhat rigidly fixed in an extended position; the muscles of the neck and back but slightly rigid; there was no arching of the back; the teeth were tightly clenched; his face bluish; breathing shallow and infrequent; the pulse could only just be detected at the wrist. The pupils were small, and acted feebly to light; the conjunctival reflex was absent. The surface of the body was cold. No knee-jerks could be obtained owing to the rigidity of the muscles. His breath had a peculiar odour, something like that of nitrite of amyl or that of pear-drops. A stomach-tube was passed, and the stomach washed out, a quantity of a clear liquid being removed by so doing; this was colourless, and had a peculiar strong alcoholic smell. The patient remained in the same comatose condition, breathing fairly well, until about half an hour after admission, when the breathing began to become more and more shallow and slow, and the face and the ears more cyanosed, and he ceased breathing within the next few minutes altogether, although the heart was beating fairly well. Artificial respiration was begun, and kept up for quite five minutes before the breathing by natural efforts was resumed. During this time his body became more limp and the pupils larger; this failure and finally stoppage of respiration occurred several times between 1.15 P.M. and 2 P.M., and artificial respiration was kept up during the greater part of this time. At 1.45 P.M. twenty minims of ether were injected hypodermically; one ounce of brandy by the rectum. Shortly after 2 P.M. the breathing became much deeper and more regular; while the face, although still bluish, had more of its natural colour; the pulse could be felt easily at the wrist, the pupils were still larger, but only acted very sluggishly to light. He was still quite unconscious. Temperature 97·2° in axilla. The patient remained quite unconscious until 9 P.M., when he seemed to wake up, recognised his friends, and answered rationally, although he seemed very dull and dazed. Breath still smelt strongly of some spirit (like bad whisky) and of nitrite of amyl or the essence of the Jargonelle pear. Between 5 P.M. and 6 P.M. he vomited several times, the vomit consisting chiefly of mucus, but still smelling strongly of the spirit and of the "pear" odour. The urine drawn off by catheter at 4 P.M. was high-coloured, and had the same peculiar odour as the breath. He slept well during the night and sweated profusely, the sweat having the same peculiar odour as the breath. He did not again become unconscious or vomit, but passed the evacuations into the bed. There was no diarrhœa. The temperature at midnight was 98·8°; pulse 76, small and easily compressible.

Nov. 1st.—He is quite conscious this morning, but is still dull and heavy; he complains of a burning pain in the throat and stomach and of frontal headache. The fauces are reddened and swollen; there is no epigastric tenderness; face still bluish. The same peculiar odour in breath, but it cannot now be detected in the urine. Pupils widely dilated, and act well to light. Tongue furred; he has slight difficulty and pain in swallowing. Temperature normal; pulse 76, feeble. Arteries thickened.

2nd.—He has now lost all pain, and says he feels quite well; he sleeps heavily, and seems drowsy in the day time.

3rd.—He was discharged. Face and ears have still a bluish tinge. (This was not so before, according to the man's statement.) Breath has still the same smell, although it is much fainter.

He was a well-built man, looking much younger and healthier than one would expect at his age (sixty-four); and, considering his habits (he had been a heavy drinker, especially of spirits, for many years), all the organs of the body were apparently healthy. Urine acid, sp. gr. 1024, scanty in amount. No albumen or sugar. Knee-jerks brisk; superficial reflexes normal. The small champagne bottle from which the patient had drunk was brought to the hospital later in the day. It contained five ounces of a clear, colourless liquid, having a strong odour of amylic alcohol, and giving the characteristic reactions of that alcohol. The contents of the stomach had the same odour, and gave the same reactions. The total capacity of the bottle was fifteen ounces, and as it was full when the patient began to drink from it, he must have swallowed about half a pint. Dr. Bernays examined the liquid remaining in the bottle, and found that it was about half fousel oil and half spirit; sp. gr. 0·8406. It begins to boil at 89°; some distils over again at 94° and 113°, and a very considerable residue at 130°, the boiling point of fousel oil. It gives reactions of amylic and ethylic alcohols. Dr. Bernays also examined two specimens of urine, one drawn off by catheter four hours after admission, the other on the following day. Both specimens contained a small amount of ethylic alcohol and a minute though quite appreciable quantity of amylic alcohol; in both urea was much increased.

Remarks.—Certain of the features of this case are peculiar and interesting: (*a*) The long interval, quite four hours, between the time of ingestion of the poison and the development of symptoms. The man went on with his work as usual during this time; he felt no ill effects, nor did anyone near notice anything wrong with him until he suddenly became unconscious. The probable explanation of this is the long-continued habit of taking ardent spirits indulged in by the patient. (*b*) The marked effect on respiration. The blueness of the face, which although best marked shortly after admission and was then due in great measure to failure of respiration, lasted to some extent during the whole of the time of his stay in the hospital, and was still present when the patient went out. The pupils at

[1] Taylor and Stevenson, p. 395; and Pharm. Journal, Nov. 1851.
[2] Blyth, p. 126. Experiments by Eulenburg, Cross, and Richardson.
[3] P. 503. [4] THE LANCET, vol. ii. 1856, p. 230.

first contracted, and becoming larger as the patient recovered. (c) The peculiar odour in the breath (of nitrite of amyl or of the Jargonelle pear), which could hardly be detected in spirit itself, and which also lasted for days. Some chemical change must have occurred in the spirit after its absorption. The fumes of spirit exhaled from the patient caused in those attending him severe frontal headache, giddiness, and feelings of malaise, which lasted some hours.

LIVERPOOL NORTHERN HOSPITAL.

A CASE OF VARIX OF THE STOMACH; HÆMATEMESIS; DEATH; NECROPSY.

(Under the care of Dr. BARR.)

THE following case is one of an extremely rare condition of the stomach, of which we have been unable to find similar examples on record. Bristowe[1] remarks: "Dilated or varicose veins of internal organs no doubt occur, and aid in the production of functional disturbance; they may even rupture and cause death by hæmorrhage. We have witnessed this accident in the case of varicose veins of the œsophagus. But their presence can rarely, if ever, be recognised during life. The importance of the dilatation of certain groups of superficial veins in enabling us to judge of the seat and character of internal diseases involving the obstruction of deep-seated veins is obvious." Dilated veins in the mucous membrane of the stomach are sometimes met with as the result of portal obstruction. Passive congestion is of frequent occurrence, leading in many instances to hæmorrhage and as a result of that to hæmorrhagic erosions. The ulcers to which this term is applied are said to be most commonly placed at the lower curvature or near the pylorus. The clinical account of the case and the post-mortem description of the condition will be read with much interest. For the following account we are indebted to Mr. A. M. Barford, house physician.

P. H——, aged thirty, a dock labourer, was admitted into the hospital for the first time, under the care of Dr. Barr, on Nov. 21st, 1888. About five years previously the patient had an attack of acute nephritis, and since that time has been subject to mild attacks of the same, with slight dropsy. On admission he complained of shortness of breath and pain in the chest; he was pallid, and had a flabby appearance; there was slight œdema of the lower extremities, and the eyelids became swollen in the early morning; he complained considerable frontal headache; the urine on some days contained albumen, on other days was free; specific gravity 1012, acid. These, shortly, were the symptoms on admission. He remained in the hospital for about a month, and, having considerably improved, was discharged.

He was readmitted on Jan. 2nd, 1889, complaining of great dyspnœa and pain in the chest. He was very anæmic, and remained in the hospital, improving considerably, until Jan. 28th, when he had an attack of hæmatemesis, which stopped after the administration of ergotine and ice. The next day he had a very severe attack, vomiting about forty-two ounces of blood; there was also considerable melæna. There were not, neither had there been at any time, any other symptoms of gastric ulcer, nor any other gastric or hepatic disease at any time. A day or two after this the patient seemed fairly well, and had no more hæmatemesis for about a month, when it began again, and continued at intervals of from two to three days until his death on March 7th, 1889.

Necropsy.—The kidneys showed signs of chronic parenchymatous nephritis; the cardiac end of the stomach was firmly adherent to the spleen by old inflammatory adhesions. On the mucous surface of the stomach over the adhesions there was a large vein which was ruptured, but plugged with a thrombus. (This was evidently the source of the hæmorrhage.) There was no ulcer of the stomach, but the adhesions seemed to prevent the return of venous blood. The spleen was normal in size and appearance, with the exception of being very anæmic; capsule thickened and very firmly adherent for about two square inches to the cardiac end of the stomach. The other organs were anæmic, but otherwise natural.

[1] The Theory and Practice of Medicine, p. 541.

Remarks.—The profuse hæmorrhage which took place from a large vein without any ulceration of the stomach appeared to be due to the adhesions to the spleen obstructing the vein and preventing the free return of blood. There were no means of determining the cause of the adhesions. The intermittent character of the hæmorrhage was due to the plugging of the vessel, and as a thrombus got detached a fresh hæmorrhage took place.

Medical Societies.

ROYAL MEDICAL & CHIRURGICAL SOCIETY.

Association of Heart Disease with Diseases of the Pelvic Viscera in Women.—Blood Tumours of Bone.

AN ordinary meeting of this Society was held on Dec. 10th, Sir Edward Sieveking, President, being in the chair.

Mr. ARTHUR E. NEVINS read a paper on the Frequent Association of Heart Disease, especially Mitral Stenosis, with Diseases of the Pelvic Viscera in Women. In this paper the author called attention to: 1. The frequency of the association between heart disease and lesions of the pelvic viscera in women. 2. The great predominance of mitral stenosis over all other cardiac lesions in such cases, and the fact that the symptoms were easily overlooked unless a thorough and careful examination of the circulatory system was undertaken, the patients generally suffering from pelvic troubles for some considerable time before any symptoms obviously referable to the cardiac lesion developed. 3. An attempt to classify the lesions of the pelvic viscera in relation to the frequency of their coincidence with heart disease. 4. The diagnostic importance in many cases of disease of the pelvic viscera, of a knowledge of the soundness, or otherwise, of the heart. The observations recorded referred to 552 consecutive cases admitted into the Hospital for Diseases of Women, Soho-square. Out of these cases 133 had been omitted as having no bearing on the subject in hand, some of them being cases of cancer of the breast, others of renal disease, and so on. Among the 419 remaining cases, 111 patients (= 26½ per cent.) were found to have symptoms of organic disease of the heart, and, with only one exception, it was always the mitral orifice and valve that was affected. Of these 111 cases, 93 (=84 per cent.) were suffering from mitral stenosis, 29 (=26 per cent.) from mitral regurgitation, and of these 11 (=10 per cent.) from mitral stenosis and regurgitation combined. In the above

Table of Diseases of the Pelvic Viscera noted among 419 Patients, arranged according to the frequency with which Co-existent Heart Disease was discovered.

Disease.	No. of cases.	Cases of			Heart disease.	
		Pure mitral stenosis.	Pure mitral regurgitation.	Mitral stenosis and regurgitation combined.	Totals.	Percentages.
Granular erosion of cervix uteri	33	12	3	3	18	55
Prolapsed ovaries	7	3	0	0	3	43
Hæmorrhage	31	6	5	2	13	42
Versions	58	16	4	2	22	38
Laceration of cervix	46	10	6	1	17	37
Inflammation of uterus	71	21	2	1	24	34
Pelvic cellulitis and peritonitis	52	11	3	1	15	29
Cysts of broad ligament	11	3	0	0	3	27
Conical cervix and stenosis	26	5	0	1	6	23
Disease of uterine appendages	10	1	0	1	2	20
Prolapse of uterus	19	0	2	1	3	16
Fibroids of uterus	39	4	0	0	4	10
Caruncles, vaginal and urethral	54	5	0	0	5	9
Malignant disease of uterus	24	1	1	0	2	8
Uterine polypi	18	0	0	1	1	6
Ovarian cysts	29	1	0	0	1	3
Debility	14	12	1	1	14	

table all the patients comprised in the series were classified according to the diseases from which they were suffering; the sequence of these groups of cases depended upon the percentage of heart disease discovered in each. In this table the same patient is often enumerated more than once, as, for instance, a patient suffering from chronic enlargement and inflammation of the womb, and also from granular erosion of the cervix, would appear under both these headings; the aggregate numbers, therefore, will be found to considerably exceed the total given above.—Dr. BARNES said that the paper was an illustration of the solidarity of the functions of the body, and of the absurdity of endeavouring to consider one organ apart from the rest. Referring to the cases mentioned by the author of the paper, he said it was often impossible to make out whether the pelvic or the cardiac disease were the primary, but he was inclined to think that in many cases he had seen the pelvic affection precede that of the heart.—Dr. POWELL observed that in cases of mitral disease one was accustomed to meet with congestion of various organs, and menorrhagia was a common symptom. Of the large number of cases quoted many probably had nothing to do with the mitral stenosis, but some might be attributed to the disordered circulation, such as granular erosion of the cervix, menorrhagia, and a certain proportion of the inflammatory affections. Of the total number of congestive uterine lesions referred to in the paper, nearly two out of three of them were found to be associated with heart lesion.—Dr. WILLIAM DUNCAN said that in many of the cases the occurrence of heart lesion could only have been mere coincidence; he did not believe that erosion of the cervix could be caused by mitral stenosis any more than laceration could, though he admitted that heart disease in women predisposed to hæmorrhage. He related an interesting case in which he had come to the conclusion that a diseased condition of the uterus had been brought about by serious aortic regurgitant disease. He was prepared to admit that in some cases of menorrhagia and inflammatory uterine affection the heart played an important part.—Dr. ROUTH said that it was important to note that the existence of a cardiac complication rendered these cases very difficult to cure, and that explained why gynæcologists found it necessary to keep some of their patients so long under treatment. Congestion was inevitable in some cases of heart disease, and a French observer had pointed out that whenever there was erosion of the cervix, the same condition obtained in the back of the pharynx.—Dr. HERMANN referred to the difficulty in diagnosing mitral stenosis with certainty; he regarded it as a rare affection. He suggested that in studying the question of the association between diseases of the heart and those of other parts, the subject should be approached on a broader basis. First, there should be found among women suffering from pelvic disorders what proportion of heart disease existed, and then in patients with cardiac mischief it should be ascertained what proportion of them suffered from pelvic complaints. He had observed in the majority of cases presenting venous congestion from any cause, that there was a diminution of the quantity and frequency of the menses; menorrhagia was present only in a few.—Dr. FREDERICK TAYLOR said that the diagnosis of mitral stenosis was extremely open to fallacy, and looking at the list of symptoms which had been detailed he failed to see on what grounds the evidence of stenosis rested. The lesion, however, was much commoner than Dr. Hermann seemed to believe. He wondered whether if one took a number of cases of mitral stenosis the proportion of patients suffering from pelvic trouble would be greater than in patients with any other disease.—Dr. SEYMOUR TAYLOR said he had been for some years studying the subject of the connexion between visceral disease and gross lesions of the heart. He mentioned a case in which a large prostate was associated with palpitation, and yet post mortem no sign of cardiac disease was found. Malignant disease of the uterus was often associated with gross lesions of the cardiac valves. He related an instance of violent cardiac palpitation which occurred in a woman who was the subject of ovarian tumour. It subsided after ovariotomy, and many years after was ascertained not to have returned. In another case violent palpitation was associated with floating kidney. He felt quite sure that there was some connexion between valvular and functional disease of the heart and disease of the viscera. He thought that with improved instruments of diagnosis the recognition of mitral stenosis was not so difficult now as it formerly was.—Mr. NEVINS, in reply, said that he had given his grounds for the diagnosis of mitral stenosis, but his main point was to emphasise the fact that these cases of uterine disease were associated with a certain group of cardiac symptoms; he had mentioned the symptoms which had occurred most frequently, and he left others to drawn their own inferences as to their signification. He, however, had carefully read Dr. Acland's paper on Mitral Stenosis, and the symptoms described there so exactly tallied with those he himself noticed that he felt justified in making a definite statement as to the cardiac condition. He thought there were evidences that the cardiac disease in many of the cases preceded the pelvic disorder. He did not wish to advance the view that in all these cases the heart disease caused the pelvic lesion, but he wanted to show that certain groups of these cases had a larger proportion of heart lesion than others. He pointed out the difficulty of deciding between early malignant disease and simple congestive inflammation, and said that in these cases it was a great assistance to know whether any heart lesion was present.

Mr. EDWARD ROUGHTON then read a paper on Blood Tumours (Angeiomata and Angeisarcomata) of Bone. His object was to elucidate the nature of those tumours, which were occasionally found in the interior of bones, and which on dissection were found to consist almost entirely of blood. These tumours had hitherto been considered to be always of a malignant nature. It was shown that, although some (perhaps most) of them were malignant, some were only semi-malignant, and others quite innocent in nature. This fact was illustrated by the following series of cases arranged in order of malignancy:—1. Max Oberst's case, a highly malignant endosteal sarcoma. 2. Dupuytren's case, arrested for seven years by tying the main artery of the limb. 3. Roux's case, permanently cured by tying the main artery. 4. Lagout's case, similar to the preceding. 5. The case of L. C—— (detailed in the paper), in which the growth was arrested by simple incision. 6. MacDonnell's case, cured by the pressure of an elastic stocking. It was argued that these tumours consisted essentially of blood-vessels which being imperfectly developed were unable to contain blood, and so burst and destroyed the tissue in which they were contained. The author thought that these blood-vessels were developed from the myeloid cells of red bone-marrow, and that the more embryonic they were the more malignant the tumour in which they were situated. In the innocent blood tumour of bone the vessels were more highly developed, but still too weak to contain blood. When the vessels attained sufficient maturity to admit of no extravasation, the tumour ceased to have the characters of a blood tumour, and was, in fact, a pure angeioma. Such tumours, although more common in other parts, had been several times met with in bones. With regard to the treatment of these tumours, it was suggested that they should be incised, and if found to contain little or no solid matter, allowed to granulate up. If after incision the tumour continued to grow, free removal of the diseased part should be practised.—Dr. MAGUIRE said that he had examined several cases of malignant tumour of bone, and three of these presented appearances of extreme vascularity and pulsation; so much so that they might be mistaken for aneurysm. He had been able to trace the development of sarcomatous tissue from the muscle fibre of the arterial wall. The more malignant the tumour the more rapidly would it become vascular, and the more likely were the vessels to give way. The fact that sarcomatous tissue was often found only at the edge of the blood tumour showed how difficult the diagnosis might be, and therefore it was unwise to trust to the information gained from a simple incision into these growths. The tumours were not confined to the endosteum, for one case he had observed was an extremely malignant instance of periosteal sarcoma which recurred later in the viscera.—Mr. HOLMES differed from the last speaker as to the value of incision, for he recommended cutting into the tumour, evacuating its contents, and then if no obviously sarcomatous tissue were found, giving the patient the benefit of the doubt. The cases originally described by French writers as aneurysm of bone were really, he thought, cases of endosteal and periosteal sarcoma, and he did not know of any safe means of distinguishing between the two.—Dr. MAPOTHER referred to a case of angioma of the centre of the tibia, which came under his notice thirty years ago, and which was still alive and well. He removed the growth by the actual cautery. There was a history of previous injury to the shin.—Mr. BARWELL said that two

diseases entirely different were being mixed up together. Under the name pulsating tumour of bone were included two separate affections, malignant and angeiomatous growths, the one consisting entirely of bloodvessels and the other of vascular sarcoma tissue.—Mr. W. HAWARD referred to some excellent specimens of myeloid sarcoma in St. George's Hospital Museum; the bloodvessels were numerous and the tumours contained large cavities filled with clot. With regard to ordinary blood cysts, he imagined that they were the same in bone as elsewhere, the wall often being formed of sarcoma tissue, while a blood extravasation occupied the centre of the growth. Myeloid tumours differed greatly in their degree of malignancy.—Mr. ROUGHTON, in reply, said he had not been fortunate enough to watch the transformation of vessel wall into sarcoma tissue. The case of blood tumour of bone treated three years ago by incision was now in perfect health, and there had been no sign of recurrence. All the cases that he had been able to refer to were distinctly endosteal and not periosteal. Alluding to Mr. Barwell's contention that these cases were divisible into two distinct classes, the object of his paper was to show that there was every grade, from the most malignant to the perfectly innocent vascular bone tumour, just as there was in the case of fibroma, fibro-sarcoma, and sarcoma of the most malignant type.

MEDICAL SOCIETY OF LONDON.

Aneurysm of the Aorta.

A MEETING of this Society was held on Dec. 9th, the President, Dr. Theodore Williams, in the chair.

Dr. POWELL introduced a discussion on Aneurysm of the Aorta. He said that the object held in view was to elicit the experience of Fellows in the diagnosis and treatment of aneurysm. It was especially urged that the true clinical features of aneurysm were alone—with very rare exceptions—yielded by the sacculated form of the disease, and that both in regard to prognosis and treatment the so-called fusiform aneurysm was totally different. The aneurysmal sac was necessarily an enlarging tumour, producing—(1) pressure phenomena, (2) cardio-vascular phenomena. In enlargement of the vessel without sacculation pressure phenomena were insignificant or absent, the cardio-vascular phenomena very marked. Pressure signs were of the first importance in the diagnosis of aneurysm, and to imperfect recognition of this fact and the attachment of too great a value to circulatory phenomena were attributable most errors in diagnosis. He referred to the significance of bruit—systolic—diastolic; of thrill; of impulse perceptible to hand, to ear, and of diastolic impulse or jog. Cases of spurious thoracic and abdominal aneurysm were related, illustrative of some of the above propositions; also cases illustrating diagnosis of obscure sacculated aneurysm. The value of the laryngoscope as an aid in diagnosis, and of the sphygmograph as a recording instrument, were emphasised. The various methods were fully discussed. Dr. Powell's remarks will be published in full in a future number.

Dr. BROADBENT said that, with regard to the pressure signs and evidences of disturbances of the circulation, he agreed with the author that the former were more important for diagnostic purposes, with this qualification, that the pressure signs depended very much upon the situation of the aneurysm. In aneurysm of the ascending aorta the tumour might attain a considerable size and yet produce very little pressure upon neighbouring parts, owing to the natural mobility of the vessels; so much so that he was sometimes in the habit of speaking of this form as "the aneurysm of physical signs," while aneurysm of the arch proper or of the descending part was rather "an aneurysm of symptoms." He said that to hear a murmur was rather the exception than the rule. One of the most valuable signs independently of this was the "diastolic shock," either audible or perceptible to the hand. Passing on to the question of treatment, he agreed that fusiform aneurysm was not amenable to any treatment; the only thing was to lower the general intra-arterial pressure, enjoining rest if otherwise necessary, but not with the idea of promoting anything like a cure. He had nothing to add with respect to the Tufnell treatment, but his own experience with the iodide of potassium was that it very strikingly promoted consolidation within the sac. He mentioned an instance which came under his notice a long time ago when house physician to St. Mary's Hospital; in that case rest and dieting had been carried out very carefully for months without any result, but consolidation took place rapidly when iodide of potassium was administered. That was an experience which had been many times repeated under his observation. He observed that the health of the patient would not permit of large doses of iodide of potassium during the Tufnell treatment. His explanation of the action of iodide of potassium was that it virtually effected the same thing as the Tufnell treatment, running off the fluid by the kidneys, and so inspissating the blood. He mentioned the case of a woman who had remained in St. Mary's Hospital upwards of two years; iodide of potassium had been tried in the firs instance without effect, and they were reduced to watching the aneurysm gradually increase in size. Later on it occurred to him that the cases in which iodide of potassium did the greatest good were those in which there was a large sac with a small mouth, and he decided once more to give the iodide a trial, this time with complete success. He concurred in Dr. Powell's views as to the use of iron wire, but with regard to galvano-puncture he related an interesting case of left subclavian aneurysm in which consolidation had been twice effected by this means; but on both occasions the clot had subsequently broken down. The aneurysm was ultimately completely cured by pressure with a shot-bag. He only resorted to bleeding when there was pain, but the relief was then very striking. Alluding to Dr. Sibson's plan of treatment by use of ergot, it unquestionably diminished the size of the tumour, though this was certainly not due to any specific action on muscular fibre in the sac wall, since he had never been able to discover any there.

Dr. ORD mentioned that he had read a paper on this subject before the Society some years ago. He said that in a certain number of cases of aneurysm of the thoracic aorta the first indications were from the circulation. He insisted on the diagnostic value of local signs: pulsation, murmur, thrill, shock, dulness, undue pulsation, &c., relying on the pressure symptoms to complete the diagnosis. He pointed out the liability to error in cases where the lung was withdrawn from the front of the vessels, giving rise to pulsation and thrill; also in cases where tumour intervened between the aorta and the chest-wall. He mentioned cases in which the diagnosis had been rendered difficult in this way. He agreed with Dr. Powell in what he said in reference to the presence of murmur; as to the relative importance of sacculated and fusiform aneurysm; and as to the diagnostic value of the "diastolic shock," whatever its explanation might be; he contended, however, that it could be heard as well with a flexible as with a solid stethoscope. He agreed that the diagnosis of abdominal aneurysm was often very difficult, but he said that in most cases by careful palpation it was possible to determine whether the aorta was pulsating in its whole length, and, in the case of a localised tumour, whether or not it was expansile. With reference to treatment, he had found Tufnell's method very beneficial, but he generally associated it with iodide of potassium whether or not there was a history of syphilis. He mentioned the case of a patient of his who, seven years ago, had been treated for six months by means of the Tufnell treatment, and who had remained well ever since. He confirmed all that Dr. Broadbent had said with regard to the ergot treatment, and agreed in his explanation of the action of that drug. He especially called attention to the relief obtained in cases exhibiting pressure symptoms by the administration of ergot, of which he quoted several instances. The dose given by Dr. Sibson was twenty minims of the liquid extract with twenty drops of spirits of chloroform to cover the nauseating taste. His experience was that galvano-puncture did not necessarily give rise to central consolidation, and he referred to a case in which a post-mortem laminated collection of fibrinous matter half an inch thick was found on the walls of the sac; it was thickest where he had introduced the negative electrode.

Dr. BRISTOWE confined his remarks to treatment, as to which he said he was somewhat of a pessimist. He thought that drugs at most afforded a passing relief. His post-mortem experience seemed to point to the fact that the permanently cured cases—i.e., thoroughly filled up with clot—were cases in which aneurysm had not been suspected, and in which the patient had been bedridden and dying for weeks from something else. He admitted that that was rather in favour of the Tufnell treatment. He had no faith in treatment by wire or by galvano-puncture. In regard

to the case mentioned in which galvano-puncture had apparently inaugurated a cure, he did not think that there was sufficient evidence post mortem that the aneurysm was in course of cure. He had no faith in the iodide of potassium treatment, and though the drug had been administered to his patients by his house physicians, he had never witnessed any decided benefit result from it. In the cases alluded to by Dr. Broadbent, in which consolidation was said to have taken place, he urged that, as no post-mortem had been made, there was no evidence as to the nature of the consolidation. He mentioned a case of large aneurysm of the ascending arch in which many methods of treatment, including that by iodide of potassium, had been tried, with the result of apparently causing consolidation; but when the patient died they found that the aneurysm did not contain any clot at all. He was unable to give any explanation of the diminution in size of the sac which had occurred. Patients with aneurysm were benefited by rest and diet, and generally by means which reduced the blood pressure. He suggested, however, that it was open to question as to how far it was worth while rendering these patients useless members of society for the sake of a problematical prolongation of life for a few weeks or months, and he thought, on the whole, that it was preferable to allow them to carry on their usual avocations, even if they died a little sooner. He alluded to the cases of Dr. Murchison and Dr. Hilton Fagge, both of whom, though they suspected they were suffering from aneurysm, continued to work to the last. Many persons went on with their work, and for many years retained their health in spite of the presence of an aneurysm. A man working at the Edinburgh Infirmary had been known to have aneurysm of the aorta for ten years, and a patient of his own had continued at work for three years, with occasional treatment with benefit when the symptoms were severe. He urged that these patients were happier than if they had remained in bed all that time. He observed that while in sacculated aneurysm the main object was to get a firm clot within the sac, in fusiform aneurysm it was quite otherwise, such a condition, if brought about, being distinctly prejudicial to the patient. The discussion was then adjourned till Monday next, Dec. 16th. The President explained that the meeting would be a "clinical evening," devoted to the exhibition of cases of aneurysm, many living examples of which had been promised.

OBSTETRICAL SOCIETY OF LONDON.

A MEETING of this Society was held on Dec. 4th, A. L. Galabin, M.D., President, in the chair.

Specimens.—Dr. W. DUNCAN: (1) Abscess of Ovary; Hæmatosalpinx and Pyosalpinx; Subperitoneal Myomata; (2) Hydrosalpinx; (3) Myoma of Uterus; Abscess of Ovary. Dr. J. PHILLIPS: Distended Tubes; Hæmatoliths from Ovarian Cyst. Dr. AUST LAWRENCE: Sponge Tents. Mr. J. BLAND SUTTON: (1) Lock of Hair, thirty inches long, from a Dermoid Cyst; (2) Dermoid of Ovary, showing immunity of the Paroöphoron; (3) Ovarian Cyst, partly Adenoma and partly Dermoid; (4) Tubo-ovarian Cyst.

A Case of Inversio Uteri; Reduction; Recovery.—Dr. BRAXTON HICKS read notes of a case where a primipara aged twenty-six was delivered, as it seemed, at the time naturally. Free hæmorrhage followed, the placenta came away without assistance, and the patient did well till the third day, when, during an attempt at micturition, something came down and appeared externally. Efforts to reduce the mass, which proved to be an inverted uterus, by simple manual pressure proved unavailing, even under chloroform. The cervical portion was firmly contracted and resisted pressure. Dr. Hicks at length pressed a speculum with an obturator against the inverted fundus, which was thereby cupped. After steady gentle pressure the fundus could be felt gradually distending the cervical portion. The hand placed externally made counterpressure on the now enlarging ring of the cervix; at the end of ten minutes the greater part of the uterus was restored. The speculum was then withdrawn and the obturator from a larger speculum introduced, so as to give more room at the point of flexion. A minute later Dr. Hicks found the uterus in its normal condition. The first speculum and obturator were then introduced, and left for a few hours within the cavity, in order to prevent relapse. No bleeding occurred during or after reduction, and the patient made a good recovery. Dr. Hicks dwelt upon the opinions of Drs. M'Clintock, Aveling, Lusk, and Barnes. He gave full reasons why in this case fundal reposition, condemned by many authorities, proved successful when carried out in the manner indicated in his paper.—Dr. HORROCKS asked if the uterus was completely inverted, or whether a small portion of the cervix remained in place. If completely inverted, the "fundal method" of replacement might be better than the other, and there would not be the same objection to the method, because the thickness passing through the inverted os would not be greater than in the ordinary method of restoring the uterus.—Dr. W. S. A. GRIFFITH noticed that the case was reported as "spontaneous" inversion. He asked if any Fellow of the Society had himself actually witnessed inversion of the uterus, occurring in connexion with the third stage of labour, under circumstances which could be called absolutely "spontaneous."

On Closure of the Ostium in Inflammation and Allied Diseases of the Fallopian Tube.—The author, Mr. ALBAN DORAN, in this communication dwelt on the frequency of closure of the ostium in salpingitis; but the obstruction is often temporary. Obstruction of the uterine end is due to swelling of the mucous membrane or to the development of "Chiari's bodies" from that membrane. Permanent closure of the tube is almost synonymous with closure of the ostium. Salpingitis and perimetritis are the causes of closure of the ostium. Three essential factors in relation to the subject are considered at length. 1. The nature of the ostium and its fimbriæ. 2. The nature and varieties of salpingitis, and also of perimetritis as far as it affects the tube. 3. The precise manner in which the ostium is closed in perimetritis and salpingitis. In adhesive perimetritis the fimbriæ of the tube are bound down by bands, which thus obstruct the ostium. In salpingitis the ostium is obstructed, incompletely at first, by the swelling of the mucous membrane which involves the fimbriæ; but permanently in bad cases by great infiltration of the submucous tissue and middle coat, which swell over the ostium and cover in the fimbriæ. The perimetritic and salpingitic varieties of closure of the ostium, often blended, were demonstrated by specimens and diagrams. The question of timely conservative operations on obstructed non-suppurating tubes was discussed. Dr. Skutsch's "salpingostomy," where a small piece of the tube is excised, appears to be a promising step in that direction.—Dr. HORROCKS noted how often orifices in the body were the seat of disease, the ostium was no exception. He thought that it must be difficult to distinguish salpingitic from perimetritic closure of the tube.—Dr. RUTHERFOORD noted the relation between certain tubo-ovarian cysts and chronic tubal disease, which Mr. Doran had already indicated in other monographs.—Mr. DORAN replied that two specimens exhibited that evening were very pure examples of perimetritic and salpingitic closure of the ostium respectively. He maintained his theory that tubo-ovarian cysts were often the result of cystic degeneration of uterine appendages after long-standing inflammation. He admitted, however, that tubo-ovarian cysts might be congenital malformations, in rare instances, as Dr. Griffith and Mr. Sutton had endeavoured to prove.

Notes of a case of Monstrosity.—These notes were read by Dr. H. C. HODGES of Watton, Herts. The patient was a primipara aged twenty-seven. There was a large quantity of liquor amnii, and when the membranes were ruptured the presentation was hard to diagnose. The face appeared to present, and a soft pedunculated tumour appeared to lie behind the frontal bone. The forceps would not hold. On delivering the head the tumour, evidently a brain-sac, was ruptured. The fœtus proved to be an anencephalous monster. The vertebral column appeared to be malformed, the coccyx curved backwards, forming a short tail bearing hair on its tough integumental covering. There was ectopia of the viscera. The fœtus was a female.

Notes of a case of Hæmatemesis in a Newly-born Infant.—This paper was also read by Mr. HODGES. The child was born at 5 A.M. on April 23rd, 1888, after a natural and easy labour. At 11 A.M. the physician was summoned in haste as the child "had hæmorrhage." The child was found blanched, with a very faint pulse; all the surrounding clothes were saturated with blood which the child had vomited. The child was put to the breast without result, and was troubled with constant hiccough. It was kept quiet and ten minims of hazeline were given every two

hours. At 5.30 P.M. a tablespoonful of blood-stained mucus was vomited, and later on a copious evacuation containing blood was passed. The case was complicated by serous discharge from the left ear, with subconjunctival hæmorrhage and internal strabismus of the left eye; but within a few days convalescence set in, and the child was perfectly free from all the described symptoms at the end of a month and has remained well ever since. Mr. Hodges dwelt on the recovery of the child after the loss of a large quantity of blood and on the value of hazeline. The discharge from the ear, strabismus, and also partial facial paralysis, which was noticed in the course of the case but which soon disappeared, all seemed to indicate injury to the base of the skull, perhaps actual fracture, involving laceration of blood-vessels. This, coupled with the bright colour of the blood, made it probable that hæmorrhage had arisen not in the stomach, but in the posterior part of the pharynx or its neighbourhood, the blood being swallowed and afterwards vomited. In a case described by West hæmorrhage occurred into the arachnoid, causing apoplexy. Other cases of hæmatemesis in the new-born child might have arisen from a similar cause.—Dr. W. S. A. GRIFFITH described a case where hæmorrhage from the vagina occurred in a new-born eight-months' child. Death occurred from an independent cause. The uterus and vagina were found full of blood. The opportunities for investigating the causes of hæmorrhages in infants were very scanty.—Dr. DAKIN believed that these hæmorrhages were an expression of a general condition which had been called "hæmophilia neonatorum." This condition, however, was not, strictly speaking, hæmophilia. It seldom or never set in before the fifth or sixth day; so that in Mr. Hodges' case, although the labour was easy, the cause of hæmorrhage was most likely traumatic.—Dr. DAKIN recalled a case of copious vomiting where the child was free from pallor. He discovered a fissure at the base of the mother's nipple. On attempting to draw the breast through a glass shield blood issued freely from the fissure. This possible source of blood should be borne in mind in similar cases.—Dr. HERBERT SPENCER believed in Mr. Hodges' theory, and had several times observed fractures of the base of the skull, causing hæmorrhage beneath the periosteum.—Dr. C. H. F. ROUTH, on the other hand, believed that the hæmorrhage was due to injury of the delicate buccal mucous membrane. He had seen bleeding from the mouth in two premature twins; the mother had encouraged them to suck. In cases of this kind the infant should be fed on raw beef juice or milk.

The PRESIDENT, in conclusion, notified that the next meeting would be held on Wednesday, January 8th, 1890.

HUNTERIAN SOCIETY.

Facial Hemiatrophy.—Atrophy of Tongue and Optic Discs, with Paralysis of Soft Palate and Larynx.—Multiple Exostoses.—Progressive Muscular Atrophy.—Idiopathic Tetanus.—Comminuted Fracture of Patella.—Xeroderma.—Pityriasis Pilaris.

THE meeting on Nov. 13th was a "clinical evening," Mr. Clement Lucas, F.R.C.S., President, being in the chair.

Dr. PORT showed a case of Facial Hemiatrophy in a girl aged seventeen years. The atrophy began at the age of eight, and was not entirely restricted to the face and head. A full and able description of the case (by Jessop and Browne) is to be found in the St. Bartholomew's Hospital Reports of 1882.

Dr. TURNER showed a girl aged five years with Atrophy of the Right Side of the Tongue, Paralysis of the Soft Palate and Larynx, causing difficulty in swallowing fluids and feebleness of cough, loss of power in the right arm, which was half an inch less in the girth of the forearm at the elbow than the left, and atrophy of both optic discs, advanced in the right eye, the sight of which was nearly lost. The symptoms dated from a series of right-sided epileptiform attacks, which commenced six weeks after an attack of scarlatina in February, 1888, and occurred daily for two months. At first there was general paralysis of all the limbs, which were all weak in August, 1888, when the child first came under observation at the North-Eastern Hospital for Children. Since then the legs and left arm had greatly improved, and the right arm also to some extent. The condition of the tongue was much the same in August, 1888, as at present. The knee-jerks were absent. There was no evidence of syphilitic inheritance in the family history, and it was thought that the symptoms were due to some specific meningeal lesion at the base of the brain involving the ninth and portion of the eighth cranial nerve on the right side. Reference was made to a case of hemiatrophy of the tongue shown at the Clinical Society by Dr. Thomas Barlow, and recorded in vol. xxii. of the Transactions.

Mr. POLLOCK showed (for the President) a child aged fourteen years, with Multiple Exostoses. They were over forty in number, mostly situated about the ends of the long bones, but not confined to them. Those in the lower extremities were noticed soon after birth, in the upper extremities about three months ago.

Mr. MACILWAINE read (for the President) notes of a similar case, with numerous exostoses on the long bones of the extremities. They occurred in a boy aged eighteen years, and had been growing for five years. About eight of them had been removed by operation. Well developed bursæ were found over each.

Dr. F. J. SMITH showed two cases. 1. A case of Progressive Muscular Atrophy in a man aged thirty-three. The disease had begun when he was eighteen, and he had been under observation almost continuously ever since. The symptoms were exceedingly well marked and perfectly typical, with the exception that pain in the abdomen had been a more or less prominent feature since the beginning. The record of the last fifteen years consisted simply in alternate conditions of improvement and relapse, the patient being admitted to hospital unable to feed himself from weakness of the arms; under good feeding and rest in bed he would recover sufficiently to be discharged until another relapse set in. A sister had died from the same disease. 2. A case of Idiopathic Tetanus in a man aged twenty-four. The symptoms had been gradual in onset, a fortnight elapsing before well-marked opisthotonos was present. The interest of the case chiefly lay in the powerlessness of chloral hydrate to affect the disease, when hypodermic injections of morphia immediately produced amelioration in the symptoms and a cure in the course of twelve or fourteen days. The patient was now quite well except for pains in the arms on waking in the morning.

Mr. JOHN POLAND showed a case of Comminuted Fracture of the Patella successfully treated by Wiring. The patient, a drayman aged twenty-nine, fell a distance of thirty feet, his left knee coming in contact with the stone pavement. His fall, however, was broken before he reached the ground. Considerable swelling about the joint obscured the precise condition of the fractured patella. At the time of the operation it seemed at first impossible to bring the fragments of the bone together, on account of the extensive comminution, the wide separation of the fragments, and the difficulty experienced in immediately recognising the proper position of the various pieces. The way in which this had been accomplished by means of sutures of pure silver wire (of small size) was indicated on a diagram. The patella then moved as a whole. The joint was syringed out with a strong solution of carbolic acid. The torn extensor tendon and capsule were finally united over and at the sides of the patella. The wound was dressed (antiseptically) on the second day, and subsequently at intervals of four and three days for four weeks, when it was almost healed. The temperature rose to 101° on the second day; after that it remained normal, with the exception of the sixth day, when it reached 100°. The patient was discharged from the hospital at the end of eight weeks with a plaster-of-Paris splint. Six weeks afterwards a small sinus formed, through which one of the wires was readily removed. The rest remained in position. The patient could now (at the end of twelve months) walk well, without the aid of a stick or support of any kind, and flex his knee to some extent.

Dr. A. T. DAVIES showed a case of Xeroderma. R. D——, aged fifty-five, general dealer. Subject to winter cough for four years. Has noticed since birth an almost universal dryness of the skin of his body. This condition is seen to be most marked on the extensor surfaces, approaching in character to ichthyosis, especially on the arms and back of the thighs; elsewhere, except the face and genitals, this condition of skin is more that of xeroderma.

Mr. COTMAN showed a case of Pityriasis Pilaris. The patient was a boy aged nine years, who had measles four months ago; following this, a roughness of the skin came on, which developed into pityriasis pilaris of a rather exaggerated form.

SHEFFIELD MEDICO-CHIRURGICAL SOCIETY.

THURSDAY, NOV. 7TH.

DR. GWYNNE, PRESIDENT, IN THE CHAIR.

Eye Injuries.—Mr. S. SNELL introduced two patients. In one there was a rupture of the globe of the eye with absence of the lens and entire absence of the iris. Vision was then $\frac{2}{60}$, and the patient read Jaeger with + glass. The tension and form of the eyeball were good. The accident took place last January and was caused by direct violence. At the time the eyeball was filled with blood, and in consequence of pain and other causes enucleation was considered on more than one occasion. The patient was a man aged forty-two. The second case was one of rupture of the choroid and optic nerve from direct violence. The accident happened eight weeks previously. There was no light perception.

Fibro-myoma of Uterus.—Mr. R. FAVELL showed two specimens. In one case an attempt to remove the tumour was made, as by mechanical pressure it was causing urgent symptoms. Abdominal section was performed, but the adhesions being so strong between the back of the tumour, and the pelvis and rectum being so intimately adherent, the attempt at removal was abandoned. The patient died fourteen days afterwards from peritonitis. At the post-mortem examination, the Fallopian tubes were found much thickened and enlarged, and the ovaries undergoing cystic degeneration and strongly adherent to the sides of the pelvis. In the other case the patient had died from sudden and profuse hæmorrhage. The tumour weighed about 7 lb.; the sinuses in the capsule of the tumour were very large near the cervix, and it appeared as if the hæmorrhage had taken place by the opening of one of them.

Temporo-maxillary Articulation.—Mr. FRANK HARRISON read a short paper on this subject. He contrasted the action of the joint in carnivora, ruminants, and in the human subject, showing that the various movements produced a modification in the shape of the teeth. In the human subject he showed the production and use of the cusps in action and repose. He also described the triangular construction of the jaw, being equilateral, having its base between the condyles (four inches) and its apex at the lower central incisors.

Laparotomy.—Mr. PYE-SMITH read the notes of a case of unsuccessful laparotomy. The patient, a boy aged thirteen, was seized with colicky pains in the abdomen after watching a football match on a cold day. He was seen by Dr. Sinclair White on the third day, and a milk diet was ordered, with small doses of morphine. Pain, with vomiting and constipation, continued for four days, when the vomiting ceased and the abdomen became distended. A saline aperient produced several liquid motions. For five days more the case seemed going on favourably, but on the twelfth day a tender lump was discovered two inches above the right internal abdominal ring. Next day tenesmus set in, and another lump was found to be pressing on the anterior wall of the rectum, just above the anus. On the fifteenth day of the illness Mr. Pye-Smith saw him in consultation with Dr. White. There was then general and moderate distension of the abdomen. The chief tenderness was over the iliac and hypogastric regions, and here an elongated tumour was somewhat indistinctly felt, lying transversely, and feeling to be continuous with the mass felt per rectum, which distended the recto-vesical pouch. No fluctuation could be made out. The rectum was empty. No peristalsis was visible. No rigors had occurred, but the temperature had ranged from 99° or 100° to 102° F., and the pulse from 90 to 132. Respiration 24, markedly thoracic; tongue furred; pain not markedly paroxysmal; no passage of blood or mucus. Intussusception seeming by no means improbable, inflation was tried before recommending an exploratory laparotomy. Neither air nor water injections effecting any change in the tumour, the abdomen was opened with antiseptic precautions. Several coils of small intestine were matted together by firm recent adhesions. At the spot where the lump had been first observed there was a small collection of pus between the parietes and the adherent bowel. This was drained, and the wound closed. After the operation the patient's father recollected that a fortnight before the commencement of his illness the lad had fallen, whilst running, with a hard green apple in his pocket, which had struck him just above the right groin, and been completely crushed. This, it was suggested, might have been the cause of the peritonitis. Thirty-six hours after the operation a quantity of offensive pus was discharged per anum, and the lump there was found to have disappeared. On the evening of the next day, however, the pulse began to fail, and the patient died on the following morning, three days after the operation. No necropsy was permitted. Mr. Pye-Smith expressed the opinion that, had the diagnosis and pathology been clearly recognised, the treatment should have been limited to rest, with light diet and opium, supplemented by the evacuation of local abscesses as detected.

Mr. PYE-SMITH also showed a specimen of Kyestine Urine.

THURSDAY, NOV. 21ST.

Muscular Atrophy.—Dr. BURGESS showed two cases. One, a female aged twenty-nine, had a severe attack of acvte atrophic paralysis at puberty. The deltoid, supra- and infra-spinatus, biceps, and brachialis anticus muscles were wasted and paralysed on both sides. On the right side there was palsy of the upper pectoralis major, hypertrophy of the upper trapezius, and great looseness of the shoulder-joint. Recent wasting of certain muscles of the left hand was doubtful. There was loss of power and bulk in the extensors of the right knee and hip. The second case was one of infantile paralysis, in which the triceps and upper pectoralis major were affected, in addition to the group of muscles constituting the "upper arm type of Erb."

Colotomy.—Dr. GWYNNE read the notes of a case where lumbar colotomy was performed for obstruction due to malignant disease of the upper part of the rectum. The patient, a woman aged forty-six, had suffered for some months from constipation, alternating with diarrhœa The operation was performed at her own house, on Dec. 3rd, 1886, in the left lumbar region. She was very much relieved, and her health so far improved that she was able to return to the duties of her shop. Two years after operation she passed blood from the bladder, and for some time this became a constant occurrence. She then began to lose flesh, and, after six months of extreme suffering, died on May 19th, 1889. On opening the abdomen post mortem, the bowels were pale and distended with gas, but apparently healthy. At the upper part of the rectum a large, apparently cancerous, mass was found, adherent to the spine behind and to the bladder in front, and completely surrounding the gut. A large fistulous communication was found between the rectum and bladder. Various nodules were discovered in the course of the bowel towards the anus, and a large ulcer about three inches from the anus, obviously malignant in character. Several large secondary tumours were found in the liver. Microscopic examination of the primary and secondary tumours showed their nature to be cylindrical epithelioma.

Ancient Surgery.—Mr. ARTHUR JACKSON read a paper on this subject. He alluded to Mr. Watson Cheyne's work on "Antiseptic Surgery" as showing how much the ancients did in the way of Listerism; but he did not agree with Mr. Cheyne's conclusion that the great surgeons of the sixteenth century obtained the success they did with their antiseptics "more as the result of chance than from any glimpse of the true principles which were at work." Mr. Cheyne had referred to Paré having ascribed atmospheric influence upon wounds not so much to the air itself as to miasms contained in it, which Mr. Jackson thought was getting pretty near the present theory of putrefaction. Mr. Teale, in his address on Surgery at the Leeds meeting of the British Medical Association, had alluded particularly to certain advances which had been made in surgical methods in recent times, such as the treatment of a wounded artery by double ligature and division of the vessel between, the substitution of Lister's sounds for older methods in the treatment of stricture, the emancipation from red-tape rules of drainage, peritoneal stitching, &c. Celsus, who lived about the commencement of the Christian era, recommended ligature of a wounded artery in two places and its division between. Galen, in the second century, advised digital compression, and, if that failed, to seize it with a hook and twist it moderately; in some cases to cut the artery across and let it retract; in others to ligature it or to apply the actual cautery. How all this practical knowledge came to be lost it was difficult to say; it was astonishing to read Paré's protest against the

actual cautery for the arrest of hæmorrhage, and to think that as lately as 1830 it was used for that purpose after amputation at the Sheffield General Infirmary, and that even at Guy's Hospital it was not discarded till after the middle of the last century. Mr. Jackson instanced the suturing of divided tendons, and less frequently divided nerves, as practised by Galen and his contemporaries. In reference to drainage, he quoted the writings of Thomas Gale, surgeon to Henry VIII., describing the hollow "tentes" used, which were of soft linen, cotton wool, silver, and copper, bigger at one end than the other for fear they should slip into deep wounds. They were first dipped in precipitate of mercury mixed with oil of roses. Stitching the edges of the peritoneum together, the drainage of the peritoneal cavity, and the application of heat in the shape of hot wine to the bowels, were mentioned by Galen, Celsus, and Paré. Tapping for hydrocephalus, the radical cure of an enterocele by tying the sac and cutting off all below the ligature, the tapping of the chest for empyema and the use of injections, the use of catheters resembling Lister's sounds, artificial ears, noses, eyes, limbs, and a "platter" for the roof of the mouth after the effects of the "Spanish sickenesse," were among a numerous list, quoted by Mr. Jackson, of surgical methods known in the seventeenth century, and many of them as early as the tenth. He also quoted a long list of instruments which were as common then as now, of much the same character and founded on the same ideas as in the present day. In conclusion, he said that he did not wish to run down the surgery of the present day or to minimise the labours of those whom we knew and admired, but he thought that if we had an opportunity of realising the work done centuries ago we and our generation would benefit greatly.—Dr. Gwynne, Dr. Martin, Mr. James, Dr. Law, Dr. Porter, Mr. Knight, and Dr. Burgess took part in the discussion.

CLINICAL SOCIETY OF MANCHESTER.

TUESDAY, OCT. 15TH.

DR. LESLIE JONES, PRESIDENT, IN THE CHAIR.

Recent Advances in Dermatology.—Dr. BROOK gave an address on this subject. He said the main reasons which caused the study of skin diseases to be neglected by the great majority of medical men were the confusing polymorphy of the eruptions and their frequent change of nomenclature. The former were due to the intense complexity of the skin as an organ and to its great variation in structure in different sites. The latter was not capriciousness, but the natural result of the evolution of our knowledge. This was instanced by the history of the terms "lichen" and "pityriasis" from Willan's time to the present day. A scientific scheme of classification was as yet impossible, and had become more so than ever since the recent influx of bacteriological investigations. The active diseases fell mostly under the head of blood diseases, nerve diseases, and parasitic diseases. The former arose from the action of poisons (auto-inoculations, as in gout, rheumatism, &c., or from drugs or foods). They had so close a connexion with many purely nervous affections (e.g., urticaria) that it was necessary to suppose that the poisonous matter exercised a specific action on various nerve centres in the skin resembling the specific action of poisons in the various nerve centres. Amongst the nerve diseases a great advance had been made by the formation of the group of Hydroa, the dermatitis herpetiformis of Duhring, and the userythema (or scar erythemata) of Unna, comprising lupus erythematosus and the chronic atrophic form of non-parasitic sycosis. The group of parasitic diseases was continually growing in number, and would probably be found finally to institute the great bulk of all the dermatoses. Their development was often greatly influenced by the general health and external surroundings of the patient, and this had led, as formerly, in the case of tuberculosis, to the presumption that many of them were constitutional. One of the newest additions to the class was the group caused by a low form of animal organism—the psorosperm (Darier),—which had been found in a peculiar disease, *psorospumose folliculaire végétante*, characterised by a plugging of the pito-sebaceous orifices and the development of large tumours, chiefly about the groins. Similar bodies are found in Paget's disease of the nipple, where they appear to be the direct cause of the epitheliomatous growth (Wickham). In the degenerative affection known as pityriasis rubra, several distinct varieties have been singled out, of different origin, course, and prognosis. Apart from the introduction of various new drugs and modes of application, the recent tendency of dermatological therapeutics had been largely in the direction of anti-parasitics.

Dr. JUDSON S. BURY showed a woman, aged twenty-four, who presented a combination of Scleroderma and Raynaud's Disease; and also exhibited water-colour drawings from (1) a case of Xanthoma Diabeticorum, and (2) a case of extensive "Port-wine Mark."

Dr. THOMAS HARRIS showed a case of Herpes Zoster, and other cases were shown by Dr. COLLINS.

Reviews and Notices of Books.

History and Pathology of Vaccination. By EDGAR M. CROOKSHANK, M.B. Two Vols. London: H. K. Lewis. 1889.

[PRELIMINARY NOTICE.]

THIS is the latest and, in many respects, a most important addition to the vast literature of vaccination. The work has, we understand, been already sent to the members of the Royal Commission. Whilst deferring for the present any critical notice of its argument, it may be of interest to note its scope and character, more especially as the conclusions arrived at are at variance with those commonly held concerning the nature and remedial value of vaccination. And in the first place, the author must be congratulated, not only upon his industry and research (which has led, amongst other things, to the discovery of some hitherto unpublished Jennerian manuscripts), but also upon the exceedingly handsome manner in which his volumes have been published, including the reproduction of numerous plates after Jenner, Ceely, Peuch, and others. The first volume is devoted to a historical and critical review of the subjects; the second consists of reprints of the most famous papers—viz., those of Jenner, Pearson, Woodville, Birch, Ceely, Badcock, and several more, memoirs dealing with all sides of the question, and with which the profession of to-day is mostly unacquainted. The first volume will, however, doubtless attract the most attention, and it certainly merits careful perusal. The subject has been dealt with temperately, and, so far as we can judge at present, without prejudice, whilst the text is free from the attacks upon Jenner's character which disfigured the book published by Dr. Creighton, with whose views Professor Crookshank in the main agrees. The work opens with chapters devoted to the practice of small-pox inoculation, from the earliest times and in all countries, and the methods of its performance. Of especial interest is the account given of the practice in Great Britain, and the description of the Saltarian method of mild inoculations. Then it is shown how this measure failed to exterminate small-pox, and how Haygarth propounded his system of registration and isolation as the only effective measure, anticipating thus the ideas of many in the present day. Then Professor Crookshank deals with cow-pox, and shows how the "tradition of the dairymaid" as to its being protective against small-pox was endorsed by others before the time of Jenner, and how Mr. Jesty (whose portrait forms the frontispiece to the work), the Dorsetshire farmer, proved his faith in its efficacy by inoculating (in 1774) his wife and sons with vaccine. The "Life and Letters of Edward Jenner" forms the title of a most interesting chapter, in which the steps of his investigations, his doubts, difficulties, and the opposition he had to contend with, are illustrated largely from his letters. One of these is reproduced in *facsimile*. In subsequent chapters the text of his first paper, rejected by the Royal Society, is minutely scrutinised and compared with the revised edition, published in the following year. It is shown how Jenner held that cow-pox, small-pox, and many other diseases had

their origin in horse-grease; and how, as his experience grew, he attributed failures to protect from small-pox to vaccination from spurious cow-pox. His inoculations with horse-pox were made between the first (rejected) and second (published) "Inquiry," and incorporated in the latter. Professor Crookshank then shows, in a series of chapters, how "vaccine lymph" has been derived from various sources—e.g., from human small-pox, as by variolation of the cow (Ceely and Badcock), from cattle plague (considered by Moorhouse to closely resemble human small-pox), from sheep-pox, goat-pox, cow-pox (in which Ceely's classical descriptions are quoted and several of his drawings reproduced), and from horse-pox. This latter subject, after descriptions of the views and practice of Jenner and Loy, is enriched by the accounts of outbreaks at Toulouse and Alfort, especially one observed at Toulouse in 1880 by M. Peuch. There is a comparatively brief chapter upon the introduction of vaccination into foreign countries, in which it is maintained that the erroneous idea that cow-pox was small-pox of the cow was the main factor in the acceptance of the new method. Then follows a chapter on the progress of vaccination in England. Here, again, the phrase "variolæ vaccinæ" was misleading. Used by Jenner, it implied more than he intended, for he did not think that cow-pox was derived from small-pox, but rather that both had a common origin in horse-pox. The propagation of erroneous ideas as to the nature and efficacy of vaccination is attributed to Baron, the biographer of Jenner, and the theory of cow small-pox was established through the reports of Ceely and Badcock. Yet, as Professor Crookshank points out, neither cow-pox nor horse-pox is associated with outbreaks of small-pox; and he not only declares, with Chauveau, that cow-pox is absolutely distinct from small-pox, but holds, with Dr. Creighton, that both the bovine and equine affections have more analogies with syphilis than with variola. He concludes, therefore, that vaccination is futile, seeing there is nothing in common between variola and vaccinia, and that there is consequently no parallelism between vaccination and the Pasteurian methods of protective inoculation by attenuated virus. Nor has small-pox been exterminated. "The Jennerian method has for nearly a century struggled for existence with the support of the cow small-pox theory and the numerous and ingenious explanations of failures embodied in the assertions of spurious cow-pox, inefficiently performed vaccination, inferior quality of lymph, deficiency in the number and quality of marks, and the misinterpretation of statistics" (p. 484)—a statement of such sweeping character that it will surely be incumbent on the writer to add still further to the literature of the subject in support of it. Rejecting vaccination as futile, he sees no reason why inoculation should not be practised on the attendants on small-pox cases; but looks to compulsory notification and isolation, and not vaccination, as the real means for coping with the spread of small-pox. Such being the main lines of Professor Crookshank's contribution to this vexed question, he will not be surprised at learning that he has failed to carry conviction to our minds respecting the real point at issue—viz., the *efficacy of vaccination*.

A Text-book of Human Anatomy: Systematic and Topographical, including the Embryology, Histology, and Morphology of Man, with special reference to the requirements of Practical Surgery and Medicine. By ALEXANDER MACALISTER, M.A., M.D., F.R.S., F.S.A., Professor of Anatomy in the University of Cambridge, and Fellow of St. John's College. With 816 illustrations. London: Griffin and Company. 1889.

PROFESSOR MACALISTER'S text-book of human anatomy is by far the most important work on this subject that has appeared in recent years, and has the great advantages of not only fully dealing with descriptive and topographical anatomy, but of also being a complete treatise on human embryology, histology, and morphology. It therefore follows the lines of the best of its predecessors in treating its subject thoroughly and comprehensively, and in many respects it is not only equal, but even superior to them. The histology of the tissues is most ably and lucidly described in the first hundred pages of the volume, and in this part we also have clearly shown the embryonic characters and subsequent changes in development in the various systems which lead up to their adult conditions in man. The anatomy of the bones and joints is then taken seriatim, and the many modifications in the ordinary nomenclature, which are rendered imperative when man is studied from a morphological standpoint, are very striking, and will be at once perceived on reading Professor Macalister's account of the human skeleton. We may draw the especial attention of the teacher and student to the descriptions of the vertebral column and the skull as examples of such changes. The descriptions of the soft parts are not arranged under the various systems as usual, but topographically in the order in which they are dissected by the student—viz., back, upper extremity, thorax, abdomen, lower extremity, and lastly the head and neck. But although this is an excellent systematic arrangement, is it the most common for dissectors, and is not the lower extremity usually dissected by the student immediately after the upper extremity and before the trunk? The muscles, vessels, nerves, and viscera are described as they would consecutively come into view in methodical dissections, and directions as to the methods for displaying them are given as in an ordinary dissector's manual or guide. The author truly says it is the only order in which the student really learns them, or should learn them, for it is in the dissecting-room alone that a knowledge of anatomy can be acquired; but we question, although this one book may now be used instead of two, if, except among a very few students, it will displace such works as those of Ellis, Cunningham, and Cleland from their well-deserved position as guides for dissection. It will rather compete with Quain's Anatomy and other standard text-books in systematic anatomy, and be mainly studied by those students who have had a preliminary biological training, for without this it will be impossible for the student to understand and appreciate the chief excellences of the book. It must be clear to anyone who refers to any description, such as that of the branches of the external carotid artery, how great is the advantage of this early scientific education in the study of human anatomy, and how essential it has become, if one is to learn properly this groundwork on which all our knowledge of medical science and art ultimately depends when this science is dealt with from its just point of view by a thoroughly scientific teacher. There are many references to the bearing of anatomical facts on medicine, surgery, and physiology; but these are comparatively scanty, and are in the main insignificant in value and importance when placed by the side of the concise and accurate descriptions of the various structures and their bearing on morphology. It is unnecessary to specify the few details in which we should differ from an author who has written a work which is destined to be placed side by side with Professor M. Foster's Physiology and the late Professor F. M. Balfour's Comparative Embryology as examples of modern science-teaching at Cambridge. The illustrations vary in precision and clearness; a large number of them are new and of the highest excellence, and will be heartily welcomed by anatomists, but some of those which have seen former service have become deteriorated in the definition of their outlines, and are not so clear as might have been wished. Names of structures, some in Latin, others in English,

in the same plate, exhibit an incongruity which should have been avoided. The work would have been more appreciated by the learner if some of the illustrations—such as those of the bones of the skull, hand, and foot—had been of larger size, even though the cost of the book would have been increased thereby. But every anatomical teacher, and every student who desires to study human anatomy in a scientific as well as a practical manner, will thank Professor Macalister for devoting so much time and trouble to the writing of this book. We shall look with interest for his catalogue of varieties and their statistics—for, as he says, the normal anatomy of man is only obtained by a study of averages,—and for the history of the progress of anatomical discovery, both of which he has promised us will appear in the future, and will prove of great value to the anatomist. The typography is very clear and distinct, and the publishers are entitled to credit for the way in which the work is got up.

Egypt as a Winter Resort. By F. M. SANDWITH, F.R.G.S. Pp. 153. London: Kegan Paul and Co. 1889.

This is an excellent work for those who purpose to winter in the dry climate of Egypt and avoid the cold, wet, and fog of our own country. The author states his object to be "not to try and prove that Egypt is the best health resort in the world, but to give reasonable information about its climate to those who have practically decided against the respective merits of sea and mountain, and are in search of pure dry desert air where rain is almost unknown, and where fog, strong winds, and cold are never felt." This he has succeeded in doing in a very readable form, and has given a great amount of information which must prove useful not only to invalids but to those in health, especially with regard to Cairo and its suburbs, and Luxor. The mean temperature, as shown by the records of five years, 1884–88, at the Khediveal Observatory, in the suburb of Cairo, was 70·2° F., and the rainfall only 1·22 inches; in 1887 rain fell only on fifteen days, and snow is unknown. The only drawback appears to be the *khamseen* wind, which, blowing from the south or south-east, is attended with clouded sky, grey atmosphere, and a very fine sand suspended in the air. It occurs about Easter; "it usually continues three days, but may in rare cases last as many as seven days," but may again appear. The number of days on which it prevails in any one year may range between four and twenty. It does not appear to affect invalids more than the rest of the Europeans. The death-rate at Cairo among European residents during the last seven years was only 21·8 per 1000; that of the native population is rather more than double, owing principally to the mortality of infants, of whom one-third die within the first twelve months. The climate of Luxor seems to be even more dry than that of Cairo. There are two good hotels there, affording accommodation for about 150 visitors. Both at Cairo and Luxor invalids must be very careful to be in the house before sunset, for the night air is very cold in comparison with that of the day. The climate seems well suited for cases of chronic phthisis, but in the advanced stages and in acute tuberculosis the patients would be better "at or near home." For though, in Egypt, "he gains sunlight and sunheat during the day, and runs a chance of his disease being arrested; against this he must balance draughts and irksome travelling, a paucity of fireplaces, food and habits to which he is unsuited, and exile from his home comforts and best friends." Cases of chronic bronchitis and asthma as a rule do well, and the climate seems particularly suited to cases of rheumatoid arthritis. The account given by the author of the sanitary condition of Alexandria and Ramleh, and especially of the conservancy arrangements, is not such as to induce anyone voluntarily to take up their abode in either of them. We have no hesitation in recommending this book to those who desire good information on the principal points involved in the selection of a bright, dry, and healthy winter resort.

New Inventions.

A PATENT SAFETY REIN.

WE have had an opportunity of seeing Sergeant's patent safety rein in use, and so far as we are entitled to form an opinion from a single inspection, think it a very decided improvement upon the existing system. The driving rein passes through the harness pad tirrets and the rings of the bit; it is then brought back through a ring attached to the saddle strap and secured by a spring hook to a ring on the crupper. It is stated to be an effectual means of stopping a runaway, to prevent rearing and falling back, after a few lessons to cure jibbing and kicking, to obviate the necessity for a Martingale or bearing-rein, and to greatly diminish the risk attending pulling up suddenly on asphalte and slippery roads. So far as we could judge it appears to fulfil many of these indications; as regards the others, such as curing jibbing and kicking, it would be absurd to offer an opinion without more opportunities of watching and testing its effects. It certainly seems to give a great command over a horse without requiring the use of a severe bit—one of the most cruel things ever invented,—and to obviate the risk of rearing. There has long been a controversy on the subject of bearing-reins, which undoubtedly, as too often used on carriage horses in London, are cruel instruments of torture. We believe, as a result of careful examination, that, except possibly in a very few instances, Sergeant's rein would give all the advantages of a bearing-rein without its drawbacks, and would put it out of the power of the coachman to inflict a great amount of suffering for the sake of what he considers a fashionable and high-bred appearance of his horses. If we had either a puller or a kicker, we should at once adopt the safety rein, and give it a fair trial. We are not disposed to agree with the inventor that the appliance is graceful, but there is nothing objectionable in its appearance. The rein can be seen and obtained at Brown's Harness Factory, Great Quebec-street, W.

AUSTIN'S SANITARY CYLINDER AND POROUS DISINFECTOR.

THIS is a porous cell with a copper wire handle. It is closed at the top, and contains alkaline permanganate. Suspended in a cistern, or water waste preventer, the permanganate slowly diffuses out in quantity sufficient to colour the water, and so promote the work of disinfection. The contrivance is simple and efficient, and although permanganate cannot be regarded as a very powerful disinfectant, it has real value, and is a good deodoriser. The Austin Sanitary Cylinder Co., Limited, Queen Victoria-street, E.C., are the patentees.

KING'S AUTOMATIC DISINFECTOR.

THIS disinfector consists of a brass box with two chambers, a cover which closes with a bayonet-joint, and a small conical aperture at the bottom. By means of a strip of metal it can be suspended in a cistern so that a regulated flow of the material in the box is ensured. The disinfectant used is permanganate of potash, which is placed in crystals in the upper part of the box. The apparatus and the material are alike cheap, and it is said that the amount of the latter consumed is so small that the expense

of disinfecting a closet does not amount to more than a penny a week. The patentee is Geo. H. King, Ashmore-road, Paddington.

Analytical Records.

CADBURY'S COCOA.

(CADBURY BROS.)

MESSRS. CADBURY maintain the fame they have so long enjoyed. The cocoa examined by us was very soluble in water, contained no starch or other foreign ingredient, and only 20·5 per cent. of fat. In other words, it was of excellent quality, easily digestible, and not too rich.

SAINT MARCO LITHIA WATER.

(HEARON, SQUIRE, AND FRANCIS, 5, COLEMAN-STREET, LONDON.)

This natural water is recommended as useful in gout, rheumatism, stone, &c. It is drawn from springs on the Marucheto Estate, Tuscany, and is, we are informed, held in high estimation in Italy. The published analysis by Professor V. Amoroso shows in English figures 154 grains per gallon of mineral compounds, including 2·52 grains of carbonate of lithium. The rest consists mainly of the sulphates, chlorides, and carbonates of calcium, magnesium, sodium, potassium, iron, and manganese. We found 172 grains per gallon in the sample we examined, and verified the presence of lithium. Certainly the water is interesting, and deserves a careful trial in this country. It is slightly saline in taste, and is not too strong to be used at the table.

CARNABYN.

(HOOPER & CO., 55, GROSVENOR-STREET, LONDON.)

We can best describe this preparation by saying that it suggests port wine and the extracts of meat and malt, but we cannot profess to describe its exact composition. It is certainly a very powerful nutrient stimulant, and will in suitable cases be very valuable. It is perfectly clear and tastes somewhat like a very fruity and somewhat sweet port. Its alcoholic strength is high—namely, 16·46 per cent., by weight equal to 35·47 of proof spirit. It yielded 14·2 parts in 100 volumes of solid residue, and 0·5 of ash containing phosphates. Every physician will see the proper [illegible] avoid the improper uses to which such a wine may be put.

THE STRETTON HILLS MINERAL WATER COMPANY, SALOP.

We have received from this company samples of various aerated beverages made from the water of the Crom Dale Spring. This water is evidently very pure, for the so-called soda-water only contained eight grains per gallon of solid matter and no trace of organic matter. Of the seltzer, potash, and table waters there is not much to remark except that the seltzer contained 10·02 and the potash 2·7 grains of salt in the 10 oz. bottle. The ginger ale did not strike us as quite satisfactory, for the evaporated residue extracted with ether left an acrid, burning taste on the tongue. No lead or other heavy metal was found in any case.

A COMPLIMENTARY DINNER.—On Tuesday evening, at the Leeds Club, Albion-place, Mr. C. G. Wheelhouse, F.R.C.S., was, on the occasion of his leaving that city, entertained at dinner by the Board of the General Infirmary, the medical officers of the various local institutions, and other medical friends. Mr. R. Benson Jowitt, Chairman of the Infirmary Board, presided. The chairman, in proposing the toast of "The Guest of the Evening," referred to Mr. Wheelhouse's long connexion with the Infirmary, and to the valuable assistance he had rendered it, not only as a surgeon, but in its management. Mr. Wheelhouse, in returning thanks, expressed his appreciation of the compliment paid to him.

THE PATHOLOGY OF CHOREA.

To the Editors of THE LANCET.

SIRS,—Might I crave a little space in order to point out an error into which Dr. Garrod has fallen in his criticism of my letter on the above subject? In that letter I say: "Rheumatism is essentially a disease of the motor apparatus. Chorea is essentially a disease of the motor centres. In this broad pathological statement we have the clue to the explanation of the fact that chorea is common in rheumatic subjects." Referring to this, Dr. Garrod says that if this were so "we might surely expect a similar association of chorea with gout and rheumatoid arthritis in spite of the rarity of these maladies in early life." In this criticism Dr. Garrod ignores (no doubt unwittingly) a very important part of my letter, for in the latter part of the paragraph to which he refers it is stated in the most explicit manner that chorea is most common in females and in young people, and that "the rheumatic constitution is by no means necessary to the production of chorea. *Youth and sex are more important predisposing agencies.*" Chorea is essentially a disease of youth, the vast majority of cases occurring between the ages of seven and fourteen. Causes which excite it then do not excite it in adult life. Gout and rheumatoid arthritis are not possible causes, because they do not occur during the age of liability to chorea; rheumatism is a possible cause, because it does occur during that age.

In discussing the question of the relationship of rheumatism and chorea it must ever be borne in mind that the cases of chorea in which this relationship exists are, after all, only a minority. In the majority there is no such relationship, and the choreic symptoms have in them to be explained without reference to any of the changes associated with the rheumatic process. To advance one hypothesis for the explanation of the rheumatic cases, and another for the non-rheumatic, is to advance two hypotheses in explanation of one set of phenomena. In science that is scarcely admissible.

I am, Sirs, your obedient servant,

Cadogan-place, Dec. 7th, 1889. T. J. MACLAGAN.

OPERATIVE TREATMENT OF FLAT-FOOT.

To the Editors of THE LANCET.

SIRS,—In your issue of Dec. 7th, Mr. T. S. Ellis of Gloucester comments adversely upon osteoplastic operations for the cure of flat-foot, holding osteotomies for this condition "to be unwarranted, because unnecessary." I am well acquainted with Mr. Ellis's views—and I think them admirable—on the restoration of deformed regions by the energetic renewal of abeyant motor functions; and in the treatment of such conditions as lateral curvature of the spine I conceive no better principle of treatment can be enunciated. But when this principle is applied to the treatment of such deformities as extreme knock-knee and flat-foot, as Mr. Ellis urges it should be in his published writings, I can but fear that it will suffer in reputation by its extension to a group of conditions wholly different from those where its advantages have been indubitably proved. The group to which the principle is properly applicable includes all cases of deformity not dependent upon actual alteration in the shapes of bones. On the other hand, in that group of cases where bony surfaces are profoundly altered in their shape or direction, the principle in question must certainly give place to that of plastic renovation; for though I would not deny to the former method the possibility of effecting a cure after long and laborious use, yet such a result, as compared with the early and satisfactory outcome of a radical operation, cannot escape condemnation as an undue procrastination of recovery. In hospital practice this element of time cannot be left out of account; it is of the greatest importance to the disabled patient and to those dependent upon him that he should be restored to usefulness by the most rapid means compatible with safety. And on this last issue, with the statistics of aseptic osteotomy before me, I can but express surprise that Mr. Ellis should now feel any doubt as to the "justifiable" nature of such operations.

I am, Sirs, yours obediently,

Manchester, Dec. 10th, 1889. ARTHUR W. HARE.

THE LANCET.

LONDON: SATURDAY, DECEMBER 14, 1889.

IT is evident from the discussions which took place at the recent meetings of the General Medical Council that considerable importance is attached by that body to the position which has been assigned by the Local Government Act to examinations for diplomas in Public Health and Sanitary Science. For the future the best and the most remunerative posts of medical officer of health are only to be held by those who either possess such diplomas or who have had other special opportunities which prove their competency for such office; and it is very natural that, since the State and the public will henceforth look to the various licensing bodies to grant these diplomas to none but those who are experts in that branch of medicine, anxiety should be expressed by the General Medical Council as to the fitness of the various examinations as a true test of competency.

Since none but fully qualified medical practitioners are now allowed to enter as candidates for the examinations, there is much to be said for the view of those who maintain that, provided the candidates exhibit the knowledge required of them, it is a matter of indifference how, when, and where that knowledge has been acquired. The General Medical Council, however, have thought otherwise, and in June last they resolved that, as a preliminary to entrance to any examination for a public health diploma, candidates should produce evidence to the effect that, since the date of their qualification in medicine, surgery, and midwifery, they had devoted a definite period of time both to chemical work in a laboratory and also to practical public health work under the holder of some public health office. These conditions have evidently not been readily assented to by some of the examining bodies; one intends to take legal opinion as to the competency of the Council to impose such restrictions, and others have through their representatives pressed strongly for some relaxation of the conditions.

The grounds of objection to them are several. In the first instance, it is held that they are, in some respects, quite unnecessary; and one body—namely, the University of London—has shown this as regards chemistry by eliminating practical chemistry from their list of subjects of examination for their new degree of Doctor in State Medicine. With this attitude we have much sympathy, in so far as the London University is concerned, because every candidate whom they admit has already passed an examination in practical chemistry, the stringency of which certainly exceeds that usually demanded by bodies granting diplomas in Public Health. But the London University probably stands alone as regards the character of its Preliminary Scientific Examination, and there are many bodies who could not properly take their stand beside that university in respect of any objection to a period of preparation in a chemical laboratory. Other bodies demand that the two periods of special preparation should, if the candidates desire it, be undertaken during the ordinary medical curriculum, and this especially if that curriculum is to be made to extend over five instead of four years. On the other hand, it is held that the time of a student is amply filled without taking up any special subjects, and the extension of the period for the ordinary curriculum has been proposed mainly on the ground that that period was admittedly too short. On this point we think that the two conditions which the General Medical Council have decided to impose might well stand on a different footing. Ordinary chemical work might properly be so taught during the ordinary curriculum as to render repetition of instruction in the subject, after qualification, unnecessary. Indeed, this is already done by certain bodies, of which the University of London is the type. And not only so, but it is generally understood that it is not the duty of a medical officer of health to undertake advanced chemical work. Inquiries as to this which have from time to time been made of the Local Government Board, who have statutory powers to define the duties of medical officers of health, have elicited the opinion that quantitative analyses and analyses of articles of food do not properly come within the province of a health officer, and this the more because, under a special statute, the work of such chemical analysis has been distinctly delegated to another set of officers—namely, the county and borough analysts. For reasons such as this, we could wish that no hard-and-fast line should be decided on in this matter; and, whilst we are convinced that the ordinary chemical training of the medical student needs supplementing for the duties of a health officer, we trust that the motion which was adopted by the General Medical Council, to the effect "that the Executive Committee shall have power to admit exceptions in special cases to the rules regulating the diplomas in sanitary science,..... " will be so interpreted as to cover the point as to the date of acquiring the needed chemical competency.

As regards the period of practical instruction with a health officer the matter is, in our opinion, different. Such work is not, in any sense, included in any ordinary medical curriculum, and hence the requirement ought not to be allowed to interfere with that curriculum. The work should certainly be undertaken subsequently to the obtaining of a registrable medical qualification. But here another difficulty has been raised. Medical officers of health are naturally those who are most competent to give the needed instruction. The best of them have, however, in most instances, undertaken to give their whole time to the duties of their office, and they would be unable to take pupils for such a purpose as is indicated without the assent of the body or, as it at times is, the multiple bodies who have appointed them. Others, again, may have neither time nor inclination for the task; indeed, one of the leading health officers in the United Kingdom, who holds office in a university town where a special diploma is granted, has already refused to undertake any such new duty. Such an attitude will necessarily tend to drive candidates to seek the needed tuition at the hands of less competent officers. For this and kindred reasons we feel we must concur with those who hold that this matter has been decided on somewhat prematurely.

But whilst we say this, our sympathy is entirely with the General Medical Council in their desire to secure that all

who hold these diplomas shall be possessed of special and expert knowledge of the subject they have to deal with. Hitherto appointments to health offices have been offered at a remuneration so miserable and inadequate that those most competent for the duties have been deterred from even applying for the posts. And, since the possession of health diplomas will in the future give the holders a statutory right to those offices where the opportunities for public health work will be on the largest and most important scale, candidates seeking them must be prepared to submit to such conditions as to stringency of examination and evidence of previous training as are necessary to satisfy the public that they are really competent to act as official advisers in that branch of medicine in which they claim to be possessed of special knowledge.

M. PASTEUR, in the pages of the *New Review*, has contributed an account of his labours, which should carry conviction to the mind of any impartial reader; and at a recent meeting of the Society of Arts the subject of Hydrophobia was thoroughly treated by Dr. ARMAND RUFFER, in a lecture that was followed by an interesting discussion. It may be worth while to recall the salient points of these proceedings, so as once more to emphasise the fact, which cannot be too often impressed, that the control of this terrible malady lies entirely in the power of the State. Dr. RUFFER at the outset of his address, pointed out that rabies never occurs spontaneously, so that it is quite possible by restrictive measures to stamp it out. He showed that the disease is almost ubiquitous—that neither climate nor season has any special influence upon its prevalence; and he described how it may be propagated to man, chiefly by the dog, but also by other animals, notably by the wolf. He sketched briefly the symptoms of hydrophobia, showing how that term is a misnomer, since it is inability to swallow from spasm of the throat, and not dread of water as such, that is an essential feature of the affection. Dr. RUFFER showed how futile all attempts at the cure of hydrophobia by drugs, sweating, &c., had been, and proceeded to discuss the measures for its prevention. These were two in number—(1) the registration of all dogs and the wearing of a collar by each such dog, all others being at once destroyed; and (2) the destruction of all stray dogs, and the muzzling of all others, together with quarantine for all imported dogs. The first was shown to be inefficient, and in Belgium had been proved to be so. The second measure alone was of use, and its value has been amply proved by results. The rest of the lecture was devoted to the consideration of the efficacy of M. PASTEUR'S method, and facts and statistics were quoted from several places where inoculations have been practised. At the Paris Institute it was shown that, each year, as the methods of inoculation have improved, the mortality amongst the inoculated has diminished, so that it is probable that this year it may not amount to 0·5 per cent.; and the lecturer contrasted such a result with the mortality of 80 per cent. amongst the non-inoculated bitten on the face (of which kind 280 have been treated by PASTEUR), and 15 per cent., the lowest mortality amongst those bitten, in any part of body. As to the allegations that persons have died from PASTEUR'S treatment who have never been bitten by rabid animals at all, Dr. RUFFER said that there was absolutely no foundation for them. The evidence in favour of inoculation over cauterisation or any other plan of dealing with the disease is in fact overwhelming. The discussion elicited many interesting points. Mr. ADAMI related his personal experience of the inoculation at the Pasteur Institute, whither he had resorted after receiving a post-mortem wound in examining the body of a rabid deer. Professor RAY LANKESTER urged the point that in an island like ours it must be possible by general muzzling and quarantine to exterminate rabies as thoroughly as wolves were exterminated in the reign of EDWARD III. Mr. W. HAUGHTON, however, thought that muzzling could not be efficiently performed, and that rabid dogs would escape it, attributing the undoubted diminution of the disease in 1885-86 to the wholesale destruction of stray dogs. Dr. G. FLEMING alluded to the injury and loss inflicted by rabies upon domestic animals, and stated how he had come to abandon the view he formerly held that it arose spontaneously. Rabies had been stamped out of the Island of Bourbon for more than half a century, though it raged with great virulence in Mauritius. By quarantine New South Wales had prevented its introduction into that colony. Dr. FLEMING forcibly advocated muzzling, which must be universal and applied for a certain time. Dr. DRYSDALE endorsed these views, and said that Professor VIRCHOW had remarked that he thoroughly agreed with PASTEUR'S splendid discovery, but it was not required in Germany, where they muzzled the dogs. Professor VICTOR HORSLEY said there could be no practical difficulty in enforcing quarantine, and that nothing short of universal muzzling could extinguish the disease. Sir JOSEPH LISTER, who occupied the chair, dwelt upon the precautions taken in the Pasteurian method to prevent the introduction of putrid matter into the inoculation material, and quoted M. PASTEUR'S statement as to the ease with which England could, in a comparatively short time, get rid of rabies, by means of universal muzzling and a rigid quarantine.

The almost complete unanimity of opinion expressed at this meeting can hardly be matter of surprise; for the arguments upon which such opinion is based are incontrovertible. On the one side we have an infective disease chiefly affecting dogs, and capable of being transmitted to man and other animals,—a disease of the most virulent nature, which no known remedy, short of protective inoculation, has yet been able to cope with. On the other side, we have a country, separated from other lands by a sea barrier, and able, therefore, to prevent, with due diligence, the importation from without of diseased animals. So that once rabies is stamped out within the island, its recurrence could be absolutely and for ever prevented. But we are a slow, and yet, according to many, a practical people; and the majority, not realising the nature of this dread malady, and urged perhaps by a sentimental view of the muzzle in relation to the dog, think that scientists are making "too much ado" about such a matter, which does not touch our commercial interests (although Dr. FLEMING showed how considerable are the losses to trade &c. from rabies), and some, moreover, seem to think that restrictive legislation of any kind ought not to be tolerated. Such people would extend the doctrine of the liberty of the subject even to the rabid dog. We may hope for more

reasonable counsels to prevail, and that, in spite of practical difficulties which are by no means insuperable, the Legislature will lose no time in following an example so long set by Germany, and with such satisfactory results. However, until we have succeeded in stamping out the disease, the treatment of hydrophobia must be that introduced by M. PASTEUR, which, as Dr. RUFFER amply showed, has been successful beyond expectation. It has stood the test of much opposition and criticism, and has established a firmer footing than any other line of treatment ever suggested for this most intractable of diseases. That there may be other means of eliminating the virus is, of course, possible; but as yet no such methods have been declared. It is surely a remarkable thing, and one not very creditable either to the intellect or the heart of our nation, that we seem to be unable to enforce either the only known method for preventing the disease in this country, or to establish means for its treatment. Universal muzzling and quarantine are regarded by many influential people with an aversion equal to that they feel to the foundation of a Pasteur institute. Meanwhile the dire malady claims its victims, whom we have to send to a foreign land for treatment. How long will it be, we wonder, before the folly and the shame of such ineptitude and impotence are brought home to the mind of the British nation!

THE Royal Statistical Society does well at intervals to elect for its President a distinguished member of the medical profession. Statistics have been nowhere more impressive or useful than in regard to health and mortality. In this region they have been invested with an interest for human beings in all conditions of life and climate that have gone far to rob them of that quality of dryness which deters so many from attempting to master them. It would be difficult to name two men who have done more to clothe the dry bones of statistics with flesh and blood than WILLIAM FARR, M.D., and WILLIAM A. GUY, M.B., Presidents, respectively, of the Society in 1871–73 and 1873–75. These are the medical names that figure honourably in the list of Presidents from 1834 onwards along with those of eminent statesmen and publicists. The name of the present occupant of the chair may be less known popularly than those, but only because his work has been more directed to the use of statistics in military questions affecting the health of our troops in the various parts of our vast empire. In this connexion, however, few names are better known or more honoured for sound and substantial work than that of Surgeon-General GRAHAM BALFOUR, F.R.S., who reviewed the various events of interest to statisticians in the past year, particularly the second meeting of the International Statistical Institute in Paris, where the English society was strongly represented. He acknowledged with much grace the kindness and hospitality of the French Government, and showed how many topics of interest to all countries had been discussed—questions of labour and wages, of the productive results under different agricultural tenures, of commercial crises, &c. He gave an exceedingly interesting account of the system adopted by the police in Paris for the quick and certain identification of prisoners previously convicted, based chiefly on photography and certain anthropometric measurements, including the height, the length of the body when seated, the length of the arms extended, the length of the head, the breadth of the head above the ears, the length of the forearm (*coudée*), the length of the middle finger and little finger, the length of the foot, the length and breadth of the external ear, &c. The unfortunate prisoner who tries lying as to his previous history quails when confronted with such details. They are not produced till after his trial and condemnation. As illustrating the value of private enterprise in statistical questions as distinguished from State-aided undertakings, Dr. BALFOUR selected for praise the volume of Mr. CHARLES BOOTH, one of the Vice-Presidents, entitled "Life and Labour in East London," and claimed for it that it had "narrowly localised" the poverty of London, discovered its extent, gauged and differentiated its intensities, and cleared the ground for the labours of other and less exact sciences.

We have not space to dwell on Dr. BALFOUR'S illustrations of the precautions to be observed in all statistical work, and especially of the error of endeavouring to obtain results from operating with ratios instead of the actual numbers. We must not, however, omit to notice his very spirited and effective vindication of the work of army medical officers in reply to an unfortunate remark of Sir EDWIN (then Mr.) CHADWICK at a meeting of the Sanitary Institute in 1883, that "there has been a continual neglect of sanitary experience in the army down to the present time." He reminds their critic that army medical officers have no power to carry out any of their own recommendations, *however urgent their need may be*, and it is too well known that the hard heart of the Treasury can only be moved by popular clamour and alarm, which too often only follow national disaster, such as the break-down in our commissariat and other arrangements in the Crimean War. Dr. BALFOUR shows that long prior to this period members of the Army Medical Department had been doing valuable work, beginning with that of Sir J. MCGRIGOR at the end of the Peninsular War, which consisted mainly in creating a system by which the health of troops, and particularly special outbreaks of disease among the troops, in various parts, were duly reported to him. This led the way in 1835 to an inquiry into the expense incurred in replacing soldiers who died or were invalided. The present Lord GREY, then Lord HOWICK, appointed Dr. HENRY MARSHALL, Deputy-Inspector of Hospitals, and Lieutenant TULLOCH to this work. In the following year, Dr. MARSHALL having to retire on the ground of ill health, Dr. BALFOUR was nominated by Sir JAMES MCGRIGOR to take his place, and in rapid succession they produced reports and recommendations of a more extensive and general character than those of the previous twenty years on the health of our troops in all parts of the Empire. Dr. BALFOUR passes hastily and modestly over these reports. But some of them at least were very valuable and have become historical. Dr. PARKES—himself a host to refute the charge of Sir EDWIN CHADWICK—says that the history of sanitary science affords no instance of the removal of disease to a more wonderful extent than in the case of the West Indies, where, fifty years ago, the usual time for the demolition of a regiment of 1000 strong was five years, and

occasionally in a single year a regiment would lose 300 men. Now this dreaded service has lost its horrors, and he attributes the credit very largely to the reports in 1838 of TULLOCH and BALFOUR, which Dr. BALFOUR disposes of in this unostentatiously brief way:—"In 1838 we presented a report on the West Indies." Not only did they frame these various reports, but they prepared a form of sanitary report to be forwarded annually by the medical officer in each foreign station. Their work was interrupted by the Crimean War; but it never died, and has been productive of similar work in the navy and in the departments of other countries. We feel gratified that the Statistical Society should have paid its highest honour to one of our profession, as quick in his detection of bad work as he has been indefatigable in the promotion of sound knowledge in the department of vital and sanitary statistics, and we congratulate him on his spirited vindication of his department.

THE President of the Institute of Actuaries has been inaugurating a new session of his Society by an address, in which he treats of many things, and among them of the functions of the medical examiner. For some reason Mr. SUTTON has taken umbrage, and complains that the medical officer, "not content with his own duties, has been putting on the uniform of the actuary and rushing in where actuaries fear to tread." What may be the justification or reason of this complaint we do not know, and our complainant does not enlighten us. We must therefore be content to say that the case which he puts is certainly a very rare one and one respecting which we should be glad to have particulars. The medical man who is ambitious of distinction in the melancholy science of annuities must be something of an intellectual curiosity. But that by the way. Mr. SUTTON appears to favour a proposal to substitute a probationary period for medical examination. This is no new thing. It is largely adopted in industrial insurance business where the amount of the transactions is too small to bear the expense of medical fees. And in the beginnings of life assurance business it was not customary to obtain a medical report at all. There are many men still living who can remember the old days when an applicant was required to appear personally before the board of directors and answer questions put then and there as to his past and present health and mode of living. The medical certificate was an improvement upon this crude method of examination. But the old medical certificate worked badly and unsatisfactorily to all concerned, and it was left for the late Mr. THOMAS WAKLEY, the founder of THE LANCET, to suggest the scheme which in the end solved all the difficulties of the case. The great inconvenience of the old method arose from the fact that the proposer paid the medical fee and received the certificate for transmission to the office. Hence the medical examiner was compelled to submit his report to the proposer himself, and ran considerable risk of giving rise to disappointment or even ill will on the part of his patients, while at the same time he was prevented from entering upon any detailed or minute report. These difficulties were met by the simple expedient of sending the medical examiner's instructions and his fee from the office of the company. He thus became an officer of the society and his report a private document, which the proposer had no right to see. This scheme was embodied in the prospectus of a company, which was established early in the fifties, and of this prospectus, indeed, it became the distinctive feature. But its merit was generally recognised, and in a few years the practice so inaugurated was universally adopted. So it has continued to the present time; and if Mr. SUTTON shows some disposition to speak slightingly of the medical officer and of his office, we shall be quite content to appeal from him to the invariable practice of the companies and the constantly repeated testimony of the directors and managers of prosperous societies, who know and do not hesitate to say that the very favourable mortality, which well administered and progressive life offices are almost always able to show, is chiefly due to the care and skill exercised in regard to the medical selection of risks.

That the actuaries can give an equally good account of their stewardship we are not quite sure. For many years past there have been accumulating in their hands enormous masses of statistical materials calculated, one would suppose, to throw light on many important questions of prognosis. But we are not aware that this statistical matter has been worked up, and its results deduced on any commensurate or even on any considerable scale. No doubt it is easy to find fault, and we have no desire to demonstrate our prowess in that direction; but, since the discussion has been set on foot, it may be useful, and serve more than a temporary purpose, to remind our critics that they in turn owe something to society over and above the safe custody and eventual destruction of the medical reports which during the past forty years have been produced at a great expenditure of time and pains, and committed to their care.

Annotations.

"Ne quid nimis."

THE REGISTRAR-GENERAL'S FIFTY-FIRST ANNUAL REPORT.

THE Registrar-General has just issued his Fifty-first Annual Report dealing with the vital statistics of England and Wales in 1888. It is satisfactory to note that the date of its appearance is earlier by nearly a month than that of any previous report of this series, although three months later than the publication of the report of the Registrar-General for Ireland for last year. With regard to Scotland, the entire population of which is smaller than that of London, the last issued Detailed Annual Report relates to the year 1886. The English report just published shows that 1888, from a statistical point of view, was a year remarkable for low rates of marriages, births, and deaths. The marriage-rate was 14·2 per 1000, the lowest rate on record being 14·1 in 1886; the birth-rate was 30·6, the lowest rate recorded in this country since the first year of civil registration (1838), when the registration system was but imperfectly carried out, and the number of unregistered births was undoubtedly considerable; and the death-rate was 17·8, which was "by far the lowest rate as yet recorded." The marked reduction in the recorded rates of marriages, births, and deaths in recent years has been partly attributed by some to an over-estimate of the present population of England and Wales. It is

obvious, and to be regretted, that more than eight years after the last census estimates of population must partake very much of the nature of mere guesses. The Registrar-General, however, after careful study of all available figures, again expresses his deliberate opinion that the estimates upon which the rates in recent years have been calculated, if at all overstating the actual population, are not sufficiently inaccurate to invalidate the calculated rates for comparison with those in previous years. We may, therefore, fairly assure ourselves that the marked reduction in the recorded death-rate in recent years represents a real reduction in the rate of mortality, implying improved health and increased longevity. We may further assume that, judged by the remarkably low death-rate, the health-condition of the country in 1888 was more favourable than in any previous year on record. The Registrar-General calls attention to the fact that the next lowest rate to that in 1888 was recorded in the preceding year, 1887. It is also pointed out that "in each of the eight years of the current decennium the death-rate has been under 20·0, whereas in no single previous year had it ever fallen so low." The mean annual rate in the last eight years was 19·05, while the mean rate in the last completed decennium, 1871–80, was 21·38; in other words, the mortality in the past eight years has been more than 11 per cent. lower than that in the preceding ten years. This remarkable decline in the national death-rate, which has been maintained, and at an increasing rate, since 1875, points conclusively to some powerful and persistent influence; and its coincidence with the full operation of the Public Health Acts of 1872 and 1875 seems fully to justify its attribution to the awakening of public interest in sanitary reform, of which awakening those Acts were the outcome. With regard to the unprecedentedly low rate of 1888, it was undoubtedly due in great measure to the exceptionally favourable meteorological conditions of the year. The coolness of the summer months and the mildness of the winter months favourably affected the mortality at all ages, but more especially the mortality of infants. The report points out that the rate of infant mortality, measured by the proportion of deaths under one year to registered births, was 136 per 1000, and lower than in any previous year on record, excepting 1879 and 1881, "each of which years was also distinguished by exceptionally low diarrhœa mortality." That the low rate in 1888 was, however, in great measure also due to causes more satisfactory to the sanitarian than mere fortuitous meteorological conditions, it is only necessary to refer to the mortality from the zymotic or specific febrile diseases; the deaths "ascribed to this class of specially preventable diseases" were in the proportion of 2097 per million persons living. This rate, the Registrar-General reports, "was far lower than that recorded in any previous year in the current decennium, and no less than 44 per cent. below the mean rate in the preceding decennium 1871–80." With the single exception of diphtheria, the death-rate from each disease in this group in 1888 was below the decennial average, and "in the majority of cases, if not actually at the minimum point yet attained, not far above it." The decline, compared with this average, was perhaps most marked in the death-rates from scarlet fever, enteric fever, and typhus, which last disease appears to be steadily dying out. On this occasion we have confined ourselves to a brief notice of the main features of the report as bearing upon the more important vital statistics of the year. We are glad, however, to note a valuable contribution to the statistics of epidemiology under the heading "Zymotic mortality in relation to sex and age." The broad basis of facts upon which these statistics are constructed give them undeniable value, and the subject is one of undoubted interest, both from a medical and public health point of view. We shall, as occasion offers, again refer to these instructive and suggestive figures, and in the meantime we may especially recommend them to the notice of medical officers of health, both on account of their inherent interest and of the statistical method adopted in the construction of the tables on which the conclusions are based.

EUTHANASIA FOR MURDERERS.

THE success of the lethal chamber for producing euthanasia in the inferior animals seems to be keeping alive a constant desire to introduce the same merciful process for murderers. Dr. Samuel Abbott, Secretary of the Massachusetts State Board of Health, is the latest advocate of this change in the mode of carrying out the extreme penalty of the law. If a change must be made, he argues, if the gallows must be superseded by some more humane method of taking a life forfeited to the State, let us take the most certain, the most humane, the most inexpensive, and the most easily managed of all the methods which science has supplied; let electricity with its risks and troublesome arrangements, involving necessity for skilled electricians as executioners, be set aside; and, let a simple apparatus, in which the criminal can sleep to death, be the new advancement in the art of taking life, *cito, tuto, et jucunde*. Dr. Abbott proposes a lethal chamber, and suggests that carbonic oxide should be the lethal agent. The culprit is to be placed in a small closed chamber, and, when all is ready, a free current of the lethal gas is to be introduced into the enclosed space, so that its occupant may be instantly rendered unconscious, and, by continuance of the process, narcotised to death. Two minutes is the time which is allowed from the beginning to the end of the proceeding. Without pledging ourselves to the statement that in every case human life could be extinguished painlessly in the space of two minutes, we fully admit that death by the lethal method could easily be carried out if the change were desirable. We may go a step further, and say that it would be possible to carry out euthanasia by a still better method than the one above referred to. There are, however, questions involved which have to be considered most carefully before any wise statesman would commit himself to the change proposed. First and foremost amongst these is the question whether it is advisable to give to murderers, and to them alone, the privilege of being deprived of life by absolute euthanasia. What have they, of all men, done that the pains of death shall not fall upon them? And why should they, of all men, go out of existence in a gentle sleep, knowing no more of their death than of their birth? The common theory is that by taking the lives of criminals, the law deters others, by the awful dread of the penalty, from committing the crime for the punishment of which the penalty is cast. Is euthanasia likely to be a deterrent? No man who has been in the practice of medicine for five years would admit anything of the kind. Practitioners of medicine learn very soon the history of those, by no means a limited class, who would willingly die at any hour were it not for the fear of the suffering that might attend the supreme event. If men never committed suicide, or if we could trust a man under sentence of death to his own devices in his cell, with appliances for suicide at his command, there would be some reason in the argument. But when we know that life is so little valued by a large class wearied of it, and that many would gladly seek death if the latter would only come without a pang, it is surely the perfection of folly to offer that class the very method of death which it does not fear. Such a proceeding is like offering a premium on murder. Why, then, alter the present state

of things? In the present method of execution by hanging there is not one bit too much of the deterrent element; for, as it is well known physiologically, there is no infliction of special agony beyond that common to dying from any sudden and violent mode of death.

MEDICAL PRECAUTIONS AGAINST CARRYING INFECTION.

MISS COBBE must feel rather dissatisfied with the scanty success of her attack upon the medical profession. She may possibly have been visited with some slight compunction as to her right to accuse the profession and to call upon it to answer her accusations. But we are not sanguine upon this point, as ladies of the vigilant order think they have divine rights over all sorts and conditions of men, even over those whose boast and property it is to prevent as well as cure disease. The profession has other work to do than to rush into newspapers and make humble explanations of its methods of disinfection. It would, at least, have been but generous in Miss Cobbe had she, in her second letter to *The Times*, admitted that she had underrated the services of the profession in the matter of disinfection and prevention of disease. It will be strange, indeed, if she can still allow herself to think that precautions taken against other visitors are going to be all relaxed in favour of medical students, or that medical men take no more precautions against infection than were thought necessary in that hazy region of "years ago," to which she has to go for her case against them. We decline altogether to go into particulars with Miss Cobbe, and would as soon think of debating with her the remedies for scarlet fever as the methods by which its spread is to be prevented. These matters are not only the subject of inquiry just now by a committee of high authority appointed before Miss Cobbe took up this branch of special Providence, but are the constant care of every medical practitioner worthy of his profession.

THE BOWMAN LECTURE.

THIS lecture was delivered before the Ophthalmological Society on Nov. 15th by Professor Edmund Hansen Grut of Copenhagen, who took for his subject the Etiology of Squint. He commenced by assuming that the anatomical position of rest of the eyeballs in emmetropia is that of slight divergence, whilst the functional position, or that which the eyeballs assume in consequence of the desire for distinct distant vision, is one of parallelism. He then endeavoured to show that convergent squint originates in, and is maintained as the result of, an innervation which induces a contraction in the internal recti beyond what is necessary, so that when this is suspended the squint disappears. On the contrary, divergent squint is the expression of an innervation occasioning convergence, permitting the eye to assume its anatomical position of rest. In the absence of any paresis or abnormal attachment of the muscle divergent strabismus can only arise when the anatomical position of rest is a divergent one. Divergent squint, therefore, differs in its etiology from convergent squint. The normal movement and position of the eyes are materially affected by habit and exercise, and their influence in the production of squinting is certainly considerable. No better proof of this can be given than the complete concomitance of lateral movements and of the movements of convergence of an occluded eye, when the ordinary stimuli as the disposition to fusion of images are wanting. An explanation is afforded of persistent convergent strabismus by assuming a considerable displacement inwards of the functional position of rest in consequence of persistence in acts of convergence preventing complete relaxation of the internal stimuli. In periodic squint the anatomical position of rest is one of unusual divergence; the squint which accompanies efforts of accommodation moves the functional position of rest inward, so that it nearly coincides with a parallel position of the optic axis, and hence, except during strong accommodation, no squint is evident. A habit of convergence is developed whenever frequent or continuous convergence is necessary, and this is most common in hypermetropia. In divergent strabismus there is no shortening or contraction of the external recti, because there is no innervation leading to their excessive action. The condition arises from complete relaxation of the internal recti, as a consequence of which the functional gives way to the anatomical position of rest; but if this latter position is one of parallelism, no absolute divergence will occur. Absolute divergence is not caused by cessation of convergence any more than the normal condition of inability to diverge leads to convergent squint, and this is shown by the different effect of tenotomy in the two conditions of external and internal squint; for if the former were, like the latter, due to muscular contraction, tenotomy of the external rectus should be as effective as tenotomy of the internal rectus, which is not the case. The lecturer passed a warm eulogium on the merits of Sir William Bowman as a scientific worker, and ended his discourse with a review of the different theories that had been advanced in regard to the nature and etiology of strabismus.

BURIAL REFORM.

UNDER the ominous heading of "Overcrowded Cemeteries" the Duke of Westminster writes, urging the necessity of fresh legislation to correct the many abuses which exist in our present mode of burial. His Grace repeats what has been frequently noticed in these columns, that the large number of bodies interred in the metropolitan cemeteries—100,000 in twelve acres at the Brompton, a quarter of a million in the seventeen acres of the Tower Hamlets—would be no cause for alarm were they properly buried. An infinitely greater number could, he remarks, be buried with harm to none if the mode of burial were in accordance with sanitary law. How thoroughly true this is may be proved by the following simple calculation. In suitable soil 1000 graves can be made in an acre without any overcrowding. If each body is buried in a perishable coffin and in the earth, the resolution of the body is effected in a few years, and another burial can take place without in any way diminishing the capacity of the grave for more interments. In other words, graves and graveplots can be made capable of holding an almost unlimited number of bodies, while vaults, catacombs, and bricked graves can only hold a very limited number. If the metropolitan cemeteries had from the first been managed as burial-grounds in the strict sense of the word, they would now be in the same position as many of our older churchyards, holding the dust of ages past and still having room for more. Burial reform is not a thing of yesterday. More than two centuries ago Sir Christopher Wren strongly denounced the practice of burying bodies in the vaults of churches and advocated suburban burial grounds. And in the middle of last century the mortal remains of Bishop Wilson were, in accordance with his expressed wish, buried in the churchyard of Kirk Michael and not under the church, he wishing to set a good example, and not to sanction so dangerous a practice. And yet in THE LANCET of last week there was a notice of an application for power to bury a body in a vault beneath the parish church of Bebington, which has a large congregation at its Sunday services. And though the memory of good Bishop Wilson still remains in the island of which he was for more than fifty years bishop, his excellent example was

not followed, several of the Manx churches having large numbers of dead in the vaults beneath them. Much has been done by individuals, collectively and individually, to set a good example in these days, and by no one more than the Duke of Westminster. It is well known that the burial of his late lamented son, Earl Grosvenor, was a model of simplicity in all its details, and he still holds the position of president of the Church of England Burial Reform Association, whose indefatigable secretary, the Rev. F. Lawrence, has done so much to make burial reform popular with all classes. But much remains to be done. Burial under churches ought to be absolutely forbidden, the soil of a public cemetery should be for the use of all the parishioners, and not partitioned off by walls into vaults or bricked graves. No coffins except those of a perishable kind should be allowed. These reforms will, it is to be feared, need legislation for their general adoption.

A NATIONAL LEPROSY FUND.

WE are glad to learn that important steps are being taken to carry on the work sketched out by the Father Damien Memorial Committee. A National Leprosy Fund is to be established, in aid of which a dinner will take place at the Hôtel Métropole on Jan. 13th, H.R.H. the Prince of Wales having kindly consented to preside. Amongst those who have intimated their intention to be present are the Duke of Norfolk, the Duke of Fife, the Archbishop of Canterbury, Cardinal Manning, the Lord Mayor, Lord Rothschild, Sir Andrew Clark (President of the Royal College of Physicians), Mr. Jonathan Hutchinson (President of the Royal College of Surgeons), Sir James Paget, Sir Henry Acland, Sir Prescott Hewett, Sir Joseph Fayrer, Sir Lyon Playfair, Sir Charles Russell, Sir Frederick Leighton, Sir George Paget, Sir Henry Thompson, Sir Edward Sieveking, and Sir E. Saunders. It may be hoped that under such auspicious circumstances the proposed fund will be well started, and that support will flow to it from all quarters. The subject is one of Imperial concern—in which the interests of England, and especially of India and the colonies, are largely bound up. It is proposed that the interest arising from such fund should be devoted to the medical treatment and care of indigent lepers in the British Empire, and that a sum of money be set apart and placed under the control of trustees for the endowment of two studentships, one student to make the United Kingdom and the remainder of Europe his field of investigation, and the other to go abroad and study the disease in India, China, the colonies, and elsewhere. Sir Somers Vine, Adam-street, Adelphi-terrace, is the hon. secretary to the Dinner Committee.

FEEDING TIME AT THE WORKHOUSE.

IN spite of some variation in the practice of different lands and ages as to methods observed in eating, we may take it that civilised custom throughout Europe has been wise in sanctioning the knife and fork as indispensable aids at the principal daily meal. Such, however, is not the universal opinion, and an opposite view has even been accepted by such qualified judges as the Chester Board of Guardians. These gentlemen, at a recent meeting, discussed the question whether, in the case of paupers' dinners, fingers and teeth were not sufficient, without the addition of instrumental help such as we have mentioned. After some conversation it was decided that on Christmas Day, and on that day only, knives and forks hired for the occasion should be issued to the workhouse inmates. The magnanimity of this concession will doubtless be duly appreciated by the ratepayers when the mere decency of taking dinner in the ordinary way is compared with the rule of Chester Workhouse—that the paupers' meat shall not be cut, but torn and devoured. A further advantage will accrue to some who are happy enough to enjoy a workhouse dinner on Christmas Day. Toothless inmates who have hitherto bolted unmasticated meat (with what results are best known to themselves and the union medical officers) will have an opportunity of mincing beforehand the indigestible morsels. We may imagine their comfort, and perhaps even picture the contentment of thoughtful guardians, that thus a small saving of expenditure on illness has been avoided. For all their guardian kindness and rare sense of ordinary decency let the poor and the country thank them, if even it be granted for one day only. Is there no other union yet more wisely liberal which will recognise in the pauper, though destitute, something more than a carnivorous animal, and will risk the extravagance of providing him daily with a plain knife and fork that he may eat like other men?

NEUTRALISATION OF THE BACILLUS TETANI.

IN June last Professor Sormani of Milan announced to the Lombard Institute of Sciences the results of his experiments on the neutralisation of the tetanigenous microbe—results which seemed to justify his conclusion that iodoform, iodol, and corrosive sublimate are absolutely destructive of the bacillus in question. To these disinfecting agents he has, as the result of further experiments, added three more—namely, chloroform, chloral hydrate, and camphorated chloral, the latter being, he alleges, in a marked degree efficacious; while camphor and camphorated alcohol he found inert. On a general review of the whole, however, he gives the preference to iodoform. Seven rabbits were inoculated with materials charged with the tetanigenous virus. From six of these, after an interval of twelve hours, the foreign body was removed during the period of incubation; from the seventh the substance was removed only when the first symptoms of local tetanic convulsions had declared themselves. In all these animals the wound was scraped and thereafter freely medicated with iodoform. The seventh rabbit died of tetanus. Of the first six, five were saved. From this Dr. Sormani concludes that medication of wounds with iodoform ought to be practised before the setting in of the first tetanic symptoms. Nevertheless, even during declared tetanus, the application of iodoform to the wound is capable of disinfecting it and of removing from it all trace of virulence. Wounds and sores treated with iodoform, especially wounds or sores contaminated with earth, yield results highly welcome to the surgeon—such medication preventing the access of that fatal tetanic symptom which, having once declared itself, leaves but little chance for skilled interference. Dr. Sormani gave confirmatory proof of his thesis by cases of tetanus in hospital, where iodoform opportunely applied saved the patients, and where, from its use having been unfortunately suspended, two lives were sacrificed.

AN INDUSTRIAL SCANDAL.

ADVOCATES of a system of labour free from State regulation may study with advantage the details of a recent instance of industrial over-pressure. At Dewsbury, a few days ago, a firm of woollen manufacturers were convicted in thirty-seven cases of employing for an excessive number of consecutive hours boys under eighteen years of age. Some of these youths had been at work for almost a whole day of twenty-four hours without intermission, except at meal times. A more scandalous example of neglect of the most obvious physical requirements could hardly be adduced. It is needless that we should enlarge upon its mischievous possibilities. At an age when the development of mind and body is proceeding actively, and absorbs in itself a large amount of vital energy, when growing organs—notably

the lungs—almost invite the action of disease, a strain which would be severe at any age is thrown upon the body with almost certainly injurious effect. The work is done, perhaps, at no great pecuniary outlay; but the cost in health, if such a system were persisted in, could not but be, as regards the manhood of the country, most ruinous. On consideration of all the circumstances, a total fine of £52, with costs, must appear to many besides ourselves a very lenient sentence.

TESTS FOR MELANURIA.

R. VON JAKSCH (*Zeitsch. für Phys. Chem.*) has been endeavouring to obtain more satisfactory tests for the condition known as melanuria. As ordinarily described, this is characterised by the passage of urine which becomes black or very dark on the surface as soon as it is exposed to air. On standing, a black pigment is deposited, which is termed melanine, and is distinguished from other colouring matters in urine by its insolubility in water, alcohol, ether, and acids, with the exception of strong nitric acid, which decomposes it. R. von Jaksch finds that when perchloride of iron is added to thick and highly coloured urine a precipitate is formed. On the addition of a very dilute solution of perchloride of iron only a light blackish-brown cloud results. A tolerably concentrated solution gives a greyish-white precipitate. After filtration, fresh addition of perchloride of iron gives rise to a dark colour and a light precipitate. With an excess of perchloride of iron the grey precipitate is dissolved and the black precipitate remains, and is only dissolved with a very large quantity of the reagent. The colouring matter thus precipitated is a mixture of different substances. It is soluble in hot formic acid and in lactic acid. It is insoluble in acetic acid, chloroform, glycerine, &c. It contains nitrogen, iron, and sulphur. With ferrocyanide of sodium and carbonate of potassium the urine gives a rose-red colour if the solution is dilute, and a dark-red colour with concentrated solutions. Mineral and organic acids change this to a deep blue, and after a time a precipitate forms. This precipitate, separated by filtration, dissolved in carbonate of soda and treated with hydrochloric acid and perchloride of iron, gives a precipitate of prussian blue. This last reaction is not peculiar to melanine, and is only a confirmatory test after the presence of melanine has been proved by perchloride of iron. Melanuria, that is to say, the presence of melanine in urine, is an important element in the diagnosis of melanotic cancer.

DEATH UNDER CHLOROFORM.

WE have to record yet another fatality under chloroform. M. F——, a woman aged forty-one, was admitted into the Samaritan Hospital for Women, Marylebone-road, on Nov. 27th. On Monday, Dec. 2nd, it was decided to operate upon her, and, in accordance with the routine custom of the institution, chloroform was administered from a Junker's inhaler. When half-way through the operation, the patient showed signs of dangerous depression, the pupils became widely dilated, and the respiration and heart's action ceased. The medical evidence given at the inquest was to the effect that the patient died from syncope produced by the chloroform inhalation. The same authority stated that this was the only death which had occurred at the Samaritan Hospital, as a result of an anæsthetic, out of a total of 4000 administrations. According to Richardson, the mortality under chloroform is 1 per 2500 or 3000, while Coles of Virginia gives it at 52 deaths in 152,260 administrations, or about the same percentage. Authorities vary widely in their estimates, some placing the mortality far higher and others stating that these figures are too high. While a certain number of patients probably lose their lives through lack of care or experience upon the part of the chloroformist, others—as in the case of Mr. Clover, working with his dosimetric method, and the case under comment, when every care and the utmost skill failed to ward off a fatal result—appear to succumb to the depressing action of the drug. It is an incontestible fact, to which regard is sometimes not given, that in proportion to the length of time the patient is subjected to the action of chloroform is the danger of failure of the vital processes increased. Deaths under chloroform have occurred when almost every form of inhaler has been employed, so that, although many possess especial merit—and notably Clover's, which but for its cumbersomeness would have become more popular,—none can be said to do more than assist the efforts of the administrator to maintain the vapour within safe limits.

THE SUBCUTANEOUS ADMINISTRATION OF IRON.

PROFESSOR ROSENTHAL of Vienna, writing in a Pesth medical journal on the subcutaneous administration of iron, states that this method is advantageous in the cases of delicate neurasthenic persons who suffer, as such often do, from atonic dyspepsia. Here even small doses of iron taken by the mouth will sometimes produce disorder of the stomach. In severer forms of disease, such as pernicious anæmia, malarial cachexia, and the graver forms of leukæmia, there does not appear to be any advantage in the employment of the hypodermic method of administering iron. Two new preparations are recommended by Professor Rosenthal for hypodermic use—viz., the peptonate and the oleate of iron. He states that he has never seen any bad results follow subcutaneous injections of iron preparations, and he explains the fatal consequences that have occasionally been reported as following injections into vascular tumours of the head, by the fact that the vessels composing such tumours are generally closely connected with the veins of the dura mater. He has frequently seen venous enlargements in the legs undergo shrinking after being injected with dilute perchloride of iron, no dangerous symptoms ever ensuing.

THE NEW "POLIAMBULANCE" IN NAPLES.

FROM the report of the Poliambulance or Dispensary which was established in Naples some two years ago by a number of philanthropic medical men for the benefit of the very poor, it would appear that an excellent work, both from a charitable and from a scientific point of view, is being carried on. There are some thirty medical men connected with the institution, who divide amongst themselves the charge of the various departments, and who undertake to do duty at night in cases of emergency, and to visit patients requiring it at their homes, all gratuitously. During the twenty-six months with which the report deals, 9500 cases have been treated, about 1000 of whom were visited at their own homes, and 250 passed on into hospitals. The number of night attendances was 354. The surgeons performed several amputations, and other major operations at the patients' homes, and the physicians had a considerable number of infectious cases to visit. The members of the staff in charge of the various departments mention a few interesting matters. Thus, Dr. Alfredo Rubino, the well-known editor of *La Riforma Médica*, who is vice-director of the poliambulance, and who takes charge of the department for nervous diseases and electro-therapeutics, reports that locomotor ataxy and infantile spinal paralysis have been the most numerous of the diseases of the cord, and remarks that he has not been able to trace the first to a syphilitic origin nearly so often as some other

authors, only 16 per cent. of his cases being referable to this cause; while Fournier ascribed a syphilitic origin to no less than 90 per cent. of his cases. The electrical treatment of infantile paralysis proved very successful. There were two cases of "hæmato-myelie" of traumatic origin, which were treated very successfully by rest and vaso-constrictor remedies during the early stage, and by the constant current and iodides later on. Dr. Masucci, who has charge of the department for diseases of the ear and throat, mentions that he was able to cure all the gummata he met with in and about the pharynx, which were mostly ulcerated, by the insufflation of subiodide of bismuth.

THE INFLUENZA EPIDEMIC.

THE influenza epidemic, as we anticipated, is rapidly spreading over the Continent, and as rapidly abating at St. Petersburg, thus following the course of many previous outbreaks of this remarkable and highly infective malady, notably that of 1847. In Vienna it has become very prevalent, and has also appeared in several towns in Poland, in some of which a large proportion of the population are affected. The *Daily News* Vienna correspondent writing on the 10th, states that the first ascertained case in that city was that of an assistant physician in the General Hospital. The illness began on the last day of November and lasted for five days. Prof. Nothnagel has given a clinical lecture on the subject, and urged the study of its etiology. Indeed, there is now a great opportunity offered to bacteriologists. In Berlin the disease has also broken out, and amongst the sufferers is reported to be Professor Bergmann (who, however, we regret to learn from another account, is said to be suffering from pneumonia arising from exposure at the funeral of Professor Volkmann). At Spandau and Dantzic the disease has also appeared, so that any day we may expect its appearance in this country. Indeed, in Paris, where "la grippe" almost always prevails during the winter, there are many cases occurring in large establishments. Influenza is not wholly free from grave results in the case of the aged and infirm, and several fatal cases resulting from supervening pneumonia are reported from St. Petersburg. In this city, however, the epidemic would appear to be beginning to decline. It is remarked that the mean daily temperature during the month ending Nov. 27th was this year 34·5° F., whereas the average of the last 126 years was only 29·5°. The barometer was somewhat higher than usual, and there was a south wind during nineteen days, which is very unusual at this time of year. There is a considerable increase in the number of cases of catarrhal pneumonia following attacks of influenza. Besides, there seems to be an unusually large number of cases of croupous pneumonia.

DEATHS IN THE INDIAN MEDICAL SERVICE.

VERY recently the Indian medical service has experienced the loss of several medical officers of distinction.

Surgeon-General Edward Green Balfour, who has died at the age of seventy-eight, was an eminent officer of the Madras Medical Establishment. He was in the public service of India from 1834 to 1876—forty-two years. After being in medical charge of the native and European troops of all branches, he served from 1862 to 1870 in the administrative grade of the Madras Medical Staff as deputy surgeon-general in Burmah and the Straits Settlements, and for four years with the Hyderabad Subsidiary Force and Hyderabad Contingent. From 1871 to 1876 inclusive he was, as surgeon-general, the head of the Madras Medical Department. For many years he held appointments at the Court of the Nawab of the Carnatic. In 1850 he founded the Government Central Museum at Madras, and subsequently collected animals, which formed the nucleus of the Madras Zoological Gardens, in the People's Park. In 1866 he instituted the Mysore Museum. He was secretary to respectively the Madras Central Committee for the Great Exhibition, 1851, the Paris Exhibitions, 1855 and 1868, the International Exhibition of London, 1862, and the Vienna Exhibition, 1873. His literary productions on Indian subjects are well known, but his chief work was his "Cyclopædia of India and Southern Asia."

James Shaw, F.R.C.S., Principal Inspector-General of Hospitals, has died in his eighty-first year. He belonged to the Madras Medical Department, and during Lord Elphinstone's Presidency of the Government was surgeon to the Governor and the Governor's body-guard. He was subsequently appointed Government oculist, with the charge of the Eye Infirmary, which he held many years, and acquired a large private practice in Madras. He was the first principal of the Madras Medical School, when that institution became a college. He finally retired from the Indian Government service in 1867.

Surgeon-General John Turner, late of the Bombay Medical Service, has died at Bath, aged seventy-five. He served as surgeon, in the *Nemesis*, in China in 1841-42, was present at several attacks and campaigns there, and was awarded the medal for his services. He also served in campaigns under Sir Charles Napier, in 1845–46, and in 1858, under Sir Hugh Rose. For more than twenty years he was surgeon with the Horse Artillery, and for eight years principal medical officer at Aden, and subsequently appointed Inspector of Hospitals of the Northern Division of Bombay.

PHTHISIS IN HIGH ALTITUDES IN SWITZERLAND.

FROM a report by Dr. L. Schrötter on the distribution of phthisis in Switzerland it would seem that the inhabitants even of high altitudes are by no means so free from phthisis as we are perhaps wont to suppose. The tables of deaths for the eleven years 1876–1886 show that phthisis is endemic in every part of Switzerland, not a single district (Bezirk) being free from it. On the whole, the deaths from this cause are fewer in the high than in the low-lying districts, but it cannot be said that the mortality from this cause is inversely proportionate to the altitude. Wherever there is a large industrial population the phthisis mortality is considerable. Industrial populations always suffer much more than agricultural populations where the altitude is the same.

VENESECTION IN LEAD POISONING.

DR. WILHELMI of Güstrow strongly recommends that in cases of lead poisoning a small quantity of blood should be taken from the arm. He has practised this treatment in twenty-five cases, and speaks warmly of the success he has met with, the patients in some cases expressing themselves as greatly relieved immediately after the operation and the affection taking a marked change for the better from that time.

INTERMITTENT FEVER.

DR. ALOIS FÉNYKÖVY communicates to a Vienna medical journal an account of some observations made on the treatment of intermittent fever by means of friction of the back along the spine. Many years ago, while at Nisch with his regiment, there occurred so many cases of intermittent fever that the stock of quinine was becoming exhausted, and in order that the patients might not be entirely without some sort of treatment, it was ordered that they should be rubbed twice a day along the spine with simple ointment. The day after this order had been given it appeared that the usual attack had not come on; accordingly, since that time

Dr. Fénykövy has very frequently employed this treatment, and usually with marked success. Indeed, he says that three-fourths of his cases have done very well without any quinine at all.

THE HYDERABAD CHLOROFORM COMMISSION.

THE limited space available in a telegraphic message prevented Dr. Lauder Brunton from giving any details concerning his experiments upon chloroform, and it is altogether premature to argue a question still *sub judice*. We regret, therefore, that the lay press has, at least in one instance, jumped to a conclusion certainly unwarranted by the facts, as far they are at present before us. A sensational paragraph, telling the public that at length it is absolutely settled that chloroform kills by failure of respiration, and never through syncope, is certainly calculated to do harm. When a lay paper goes on glibly to observe that if the pulse is left alone and the respiration watched no danger can be incurred, we are reminded how perilous is "a little knowledge." It then becomes our duty to urge upon readers that the research which Dr. Lauder Brunton has undertaken is one not lightly dealt with, nor are conclusions to be formed until we have heard Dr. Brunton himself state to what results his experiments have led him. At present the whole question remains *in statu quo antea*. Nor must the issues be confused. There is another aspect of the question than that which up to the present time has engaged Dr. Brunton's attention—namely, the evidence arrived at by clinical observation. Bearing these facts in mind, it is evidently premature to offer any decided opinion as to the exact *modus operandi* of death under chloroform, and it would certainly be wholly unjustifiable to relax any of the precautions and care at present adopted by practical anæsthetists as necessary when dealing with chloroform.

FOREIGN UNIVERSITY INTELLIGENCE.

Berlin.—Dr. Klemperer has qualified as *privat-docent* in Medicine, and Dr. Nitze in Diseases of the Urinary Organs. Dr. Lassar has been appointed to give clinical instruction for Professor Lewin, who has not quite recovered from his illness.

Freiburg.—Dr. Sonntag has qualified as *privat-docent* in Midwifery and Gynæcology.

Leipsic.—Dr. Landerer has been promoted to the rank of Extraordinary Professor of Bandaging and the Use of Surgical Apparatus, and Dr. Tillmanns to be Extraordinary Professor of Surgery.

Moscow.—Dr. Kusmin has been placed on the staff as Extraordinary Professor of Surgery.

Padua.—Dr. Cervesato has been appointed Extraordinary Professor of Children's Diseases. Dr. P. Bonuzzi has qualified as *privat-docent* in Medical Pathology.

St. Petersburg (*Medico-Chirurgical Academy*).—The candidates for the chair of Clinical Surgery, rendered vacant by the death of Professor Bogdanovski, are Drs. Kruglevski, Multanovski, and Ratimoff.

AT the next meeting of the Neurological Society, to be held on Thursday, the 19th inst., at the National Hospital, Queen-square, Mr. James Sully, A.M., is, we see, announced to give an address on the Psycho-physical Process in Attention. The subject is one of much difficulty and interest, and also of much practical importance. We understand Mr. Sully will deal with the psychology of attention, and the psycho-physical experiments bearing on it. He will discuss the nervous process in attention, and its relation to motor innervation; and, lastly, he will deal with habitual directions of attention and interest, and the practical bearings of the subject.

PROFESSOR WESTPHAL of Berlin, who has been ill for some time, is, we are sorry to learn, worse, and it is thought unlikely that he will ever be able to resume the duties of his chair. The charge of his clinic is for the present being undertaken by Dr. Oppenheim.

AT an investiture of the Order of the Bath on the 5th inst. at Windsor, held by the Queen, Sir John Banks, Physician in Ordinary to the Queen, was invested with the Order of Knight Commander of the Bath.

THE publication of Sir Joseph Lister's paper, read at the Hunterian Society, has been deferred in consequence of some further investigations which have been found necessary.

MR. C. LEOPOLD HUDSON, F.R.C.S. Eng., has been appointed to the office of Surgical Registrar of the Middlesex Hospital, vacant by the resignation of Mr. W. Roger Williams.

THE cholera epidemic in and round Bagdad, which had a little abated about the middle of October, is stated to be now raging there more violently than ever.

THE LANCET AND THE HYDERABAD CHLOROFORM COMMISSION.

WE have received by mail a copy of the *Deccan Times* containing an interesting account of a banquet given in honour of the members of the Hyderabad Chloroform Commission by the Nawab Intesar Jung, on Tuesday, Nov. 12th. The dinner, to which 140 guests sat down, was given in the beautiful ball-room of the new Secunderabad Club, and left nothing to be desired as regarded the perfection of the arrangements and the quality of the viands. After the usual loyal toasts, the Nawab proposed the health of the Minister, Sir Asman Jah, who responded in the Urdu language, a translation of which was afterwards read by the Minister's secretary. The Minister, in proposing the health of the members of the Chloroform Commission, went into the history of the circumstances leading up to the appointment of the Commission with a view to settling once for all the vexed question of the attributes of chloroform. The Minister's concluding words were as follows:—"To enable Dr. Lawrie to bring about such an inquiry, his Highness was pleased to place a generous donation at his disposal, and the proposal being communicated to THE LANCET, perhaps the first medical journal of the world, the conductors of that periodical induced Dr. Lauder Brunton, whose name stands foremost in this branch of research, to go out as their representative. The Government of India has also been pleased to depute Surgeon-Major Bomford, a distinguished member of the Indian Medical Service, to assist at the conference. Experiments are performed daily at the Residency Medical School on dogs and monkeys, in which the effect of chloroform on the heart and on respiration is noted by means of instruments of marvellous delicacy, such as perhaps have never before been used in India. Now I venture to say that we Mohammedans are peculiarly entitled to sympathise with the objects of the Commission, for we were the first originators of that experimental research which in the hands of Europe has led to such magnificent results. The seed was sown by our ancestors, and nourished with the waters of the Euphrates and the Guadalquiver. Chloroform and ether, and some other wonderful agents, have been obtained from substances first discovered in the laboratories of a Razi, a Jubair, or an Ibu-i-Yunus. Mussulman surgeons were the first to make use of the actual cautery, and they invented instruments for midwifery and for ophthalmic surgery. Ibu-i-Haisum, known to Europe as Al Hazen, discovered the weight of the atmosphere, and fixed its height at fifty-two miles;

enunciated the principle of aberration in optics; and almost reconstructed that science on mathematical principles upon the scant foundation laid by the Greeks."

Dr. Lauder Brunton, on rising to reply, was greeted with loud and continued applause. The following is an abstract of Dr. Brunton's remarks:—"I cannot readily find words to express my sense of the honour that you, our host, have done to me and to the members of the Hyderabad Chloroform Commission in inviting us here to-night. My enjoyment to-night is alloyed by pain that I am unable adequately to express my sense of the generosity of the Nizam's Government, and of all the kindness shown to a stranger like myself since my arrival in Hyderabad; yet this pain enhances the pleasure which the undeserved and generous kindness affords. But the saddest thought with which our pleasure is mixed is one which is nevertheless itself the cause of our pleasure to-night—viz., that all over the world men and women and children are suffering from pain and calling for relief which it is not always in the power of medical art to afford. In the speech which you have just heard from our host, all the essential points in regard to anæsthetics have been so clearly put that it is quite unnecessary for me to say more about them; I may merely repeat that the questions which the Hyderabad Chloroform Commission has to settle are: Why do deaths occur during the administration of anæsthetics? How are they to be prevented? Some men are inclined to think that some such deaths are inevitable; whereas others, like my friend Surgeon-Major Lawrie, consider that they are quite preventable, and that anæsthetics (and especially chloroform) may be always administered with safety provided proper care be taken. This is a question upon the solution of which so much depends that for the last forty years or more men have been trying all over the world to solve it. But all this time Governments which would spend millions upon appliances for destroying life have shown a singular apathy regarding means of saving both life and suffering. It has been reserved for the Nizam and his able Minister Sir Asman Jah to appoint a commission specially to investigate the action of chloroform and solve, if possible, the important questions which I have just mentioned. As our host has said, there is a peculiar appropriateness in this appointment being made by the Nizam's Government as a great Mohammedan power, for in the middle ages, when the arts and sciences were almost lost in Europe, they still flourished at Bagdad and Cordova, and to the Saracens and Moors we owe the preservation of much medical lore which would otherwise have been lost. Especially did they direct their attention to the great practical point of the treatment of disease and the use of remedies, and in my own studies on the action of medicines I have had occasion to consult the works of Avicenna. Nor has the Nizam in the appointment of this commission followed the tradition of the Mussulmans only in the nature of the subject selected, for in the liberality with which he has carried out the scheme he has rivalled the generosity of Haroun-al-Raschid at Bagdad, and Abdulrahman at Cordova. I may perhaps be permitted to say that, although I have worked in laboratories in London, Edinburgh, Leipsic, Vienna, Berlin, Amsterdam, and Paris, and although no words can express my obligations to the directors of these laboratories for all the benefits I received at their hands, yet in none of them have I found the same facilities for work as at Hyderabad. For here we have all the apparatus required. Whenever anything is asked for it is at once supplied; dogs and monkeys on which to test the action of chloroform are provided in abundance, and of the willingness and ability of our assistants it would be impossible to speak in too high terms. By an improved method of recording our experiments we shall be able to render the records as readily available for examination and criticism by scientific men at the Antipodes as they are here, and a hundred years hence as they are now. As experiments are self-recording, they are also free from any possibility of the result being modified by a bias in the minds of the Commission, and whatever men may say to our conclusions it is impossible for them to challenge our facts. It may be hard in the space of a few weeks to settle a question that has remained without a certain answer for more than forty years, but, nevertheless, we hope that we shall be able to produce an array of facts such as shall carry conviction to the minds of all unprejudiced persons, and which, we trust, will be of such practical utility in helping to prevent suffering and preserve life, as to justify the great liberality of the Nizam's Government and lead other Governments to follow the noble example so generously set by that of the Nizam."

Dr. Lawrie, in a brief speech, explained that the work of the Commission was being carried on with perfect harmony, and with only one object in view—namely, to arrive at the truth.

ANNUAL REPORT OF THE LOCAL GOVERNMENT BOARD.

THE eighteenth annual report of the Local Government Board embodies for the first time an account of local government as reconstituted by the Local Government Act, 1888, and the resulting election of County Councils; and a somewhat lengthened account of the Act, of its results on our system of local government, and on the duties of various officers appointed under or affected by the Act, is included in the volume. Several important financial considerations bearing upon the Act are also considered. The question of pauperism is next dealt with; this question coming in somewhat inconveniently to break the continuity of the story of local government, which has again to be resumed when the question of local administration and public health is taken up as a third topic. There has, fortunately, been a further decrease in the amount of total pauperism; the decrease on that for the preceding year being at the rate of 1·7 per cent. There still remains, however, the uncomfortable fact that there is one pauper to every thirty-five persons in the population of England and Wales; and in the year ending Lady Day, 1889, the number of vagrants was larger than the mean number relieved in any recent year, except 1869, 1880, and 1881. The cost per head for paupers, which was £10 10s. 10¾*d.* in 1888, somewhat exceeded that for the previous year, although it was less than for a number of previous years. Amongst the improvements affecting metropolitan Poor-law infirmaries, it is stated that changes are either being effected or are in prospect for the Lewisham, Woolwich, Greenwich, Whitechapel, St. Giles, Camberwell, and the St. Mary Abbots, Kensington, Unions. The fever cases admitted into the Metropolitan Asylums Board Hospitals during 1888 were 5152, as against 6537 in 1887; 88 per cent. being scarlet fever cases. The total number of admissions from small-pox were 62, a number small beyond precedent, and this although five years have elapsed since the last epidemic. During the year the Elberfeld system of poor law was investigated for the Board by Mr. J. S. Davy, the essential features of this system being three in number. The investigation of the circumstances of applicants for relief is undertaken by large numbers of unpaid almoners; the service of the almoners is not voluntary but compulsory; and the Poor-law authority consists of a small body selected and controlled by the Town Council, and not elected by the taxpayers. But it is not considered that such a system would work well in this country.

Reverting to local administration, as this term is generally understood, we find that the amount of loans sanctioned for urban and rural sanitary authorities has once more a slight tendency upwards, over two millions and a quarter having been thus taken up during 1888. Of this sum more than two millions were granted to urban authorities. Of the medical officers of health now holding office in the country, there was repayment of a moiety of the salary in the case of 1211 districts; the corresponding number for inspectors of nuisances being 1120; the total number of districts in England and Wales being 1004 urban and 574 rural, or 1578 in all. Among the defaulting sanitary authorities, Cheshunt has often been referred to; but it is now stated that the works of sewerage there have been completed, and that the writ of *mandamus* against the authority has been discharged. In several other instances works of a similar sort are impending with a view to the same result. Oundle in Northamptonshire and Fleetwood are two fresh cases that have recently been inquired into, and it seems clear that remedial action will have to be undertaken. Certain compulsory orders as to the removal of refuse were also issued during the year; and inquiries were held as to the pollution of a number of rivers. Steady progress is being made with the inspection of canal boats, and the indecent herding together of men, unmarried

women, and children in barge cabins has been much diminished, in some instances marriage settling the difficulty where the case was not complicated by some other condition, such as overcrowding.

Under the Sale of Food and Drugs Act there are now 52 analysts for counties and 184 for boroughs; and during 1888 the analyses, which were 26,344 in number, exceeded those for 1887 by about 1900. In London one sample was taken for every 551 persons; in the provinces there was one for every 1141. But there are great variations as to the amount of work carried out. Thus in Fulham the proportion was one sample to every 289 persons, whereas in Newington it was only one to every 7190. On the whole, substantial good is being effected. Thus in the five years 1878–82 the proportion of articles found to be adulterated was 15·5 per cent.; now it is 10·8. Unfortunately, the amount of fine imposed is insufficient to deal effectually with a traffic so remunerative as is, for example, that of watering milk, and though more care is taken in the fraudulent practice so as to avoid passing the wide variations in richness which milk in its natural state exhibits, yet the practice has by no means been put an end to. The average penalty was 27*s.*; the highest was £15. In one metropolitan district, where a sample of milk had been reported against, and where the chemists of the Inland Revenue Department had confirmed this verdict, the magistrates merely imposed a fine of 1*s.*, with 2*s.* costs. But the vestry, on the other hand, who had instituted the proceedings had to pay their costs, amounting to £3 9*s.* 2*d.*, they being in this way practically submitted to a heavy penalty for performing their duty towards the ratepayers. Another man who sold small quantities of milk-and-water to poor people as a food for their infants was also let off with a fine of 1*s.* Of the articles examined during 1888, the percentages of some of the principal adulterations detected were as follows: spirits, 17·9; lard, 16 8; coffee, 12·0; milk, 11·9; butter, 10·4; mustard, 9·5; pepper, 7 7; and drugs, 7·3. Fortunately, the adulteration of bread and flour grows less and less; and it is also stated that the sale of a mixture of fats as butter has received a decided check by the Margarine Act, 1887.

As to the report of Major-General A. de C. Scott, examiner under the Metropolis Water Act, it is stated that although the circumstances of the year were unfavourable to the filtration operations of the London Water Companies, yet a high standard of purity was maintained. The Kent Company stands alone in deriving all its supply from deep wells, and thus delivers its service unfiltered; indeed, the only drawback attaching to this water is a commercial one, for it is 50 per cent. harder than the rest of the London supplies, and as such it causes a needless waste of materials, such as soap. The number of houses receiving a constant supply increased during the past year by 41,006, and in this way many sources of pollution and a substantial risk to health are avoided.

A number of other matters are referred to in this report, which, as additional duties are cast upon the staff of the Local Government Board, tends to become more and more bulky. Some of these matters relate to the Board's medical administration for health purposes; but, as a separate report is soon expected to emanate from the Medical Officer of the Board on this subject, we postpone further reference to it for the present.

NEW MORTUARY AND POST-MORTEM ROOM AT THE MIDDLESEX HOSPITAL.

THE importance of having attached to every hospital a well-constructed mortuary and post-mortem room is generally recognised, but unfortunately in many instances the accommodation afforded leaves much to be desired. That pathologists and all who have to work in post-mortem rooms, frequently for hours together, should be able to discharge their duties with as little risk to their health as possible is of the first importance, and anyone who has had experience in hospital management will be able to appreciate the influence that a well-appointed mortuary exercises in smoothing over the difficulties that sentiment and prejudice too often place in the way of pathological research. The post-mortem room at the Middlesex has hitherto been in close proximity to the hospital, but the site being required for the erection of a chapel in memory of the late Mr. A. H. Ross an opportunity was afforded the authorities for carrying out a much-needed reform by providing the necessary accommodation detached from the hospital building.

Mr. Keith Young, the architect to the hospital, has designed and constructed a building, a short description of which may be of interest. Externally it is faced with red bricks and yellow terra cotta window mullions and dressings; the architecture is a simple form of classic, with round-headed arches to the doors and windows. The floors and the roof are constructed entirely of iron joists encased in concrete. The basement room is connected with the basement of the hospital by a subway, lined throughout with white glazed bricks, and ventilating into the open air. The floors of this subway, and of the room into which it leads are made of Portland cement and iron slag on a foundation of hard core. Above this room is the mortuary, standing on a level with the garden, and above the mortuary is the post-mortem room, to which access is gained by a separate stone staircase. The internal walls are lined throughout with glazed bricks, with the exception of the mortuary, where cream-coloured glazed tiles with a dark-green skirting are used. The floors of these rooms are marble mosaic. A hydraulic lift passes from the basement to the post-mortem room, and is worked direct from the main with a multiplying cylinder and piston arrangement instead of a ram. Accommodation has been provided in the basement for a destructor, in which it is proposed to destroy all the used dressings, together with anything else that it may be desirable to burn. The post-mortem room is so constructed that all the angles formed by the walls, and the floor and ceiling angles, are rounded so as to admit of being easily washed out. The tables are made of Belgian fossil marble, supported on cast-iron frames specially designed with a view to the avoidance of all angles. The drainage from the tables discharges into channel pipes in the floor, which are covered with open iron gratings. This channel, which leads into a lead pipe, properly trapped below and ventilating above the roof, can be flushed at pleasure by means of two six-gallon flushing cisterns, fixed to the walls. Hot and cold water are laid on to the sink and lavatory basins and over the centre of each table, and for the latter supply two mixing valves are provided by which the water can be regulated to any temperature desired. The ventilation of the mortuary is carried out partly by windows and two Tobin's tubes and partly by an exhaust shaft, which will, when the refuse cremator is erected, be heated by contact with iron plates forming the separation between the smoke flue of the cremator and the exhaust shaft. In the post-mortem room the large side windows and skylights, together with an open fireplace, afford efficient ventilation. Altogether the construction and general arrangement of this building are distinct advances, and will well repay a visit by anyone interested in such matters.

THE METROPOLITAN HOSPITAL SUNDAY FUND.

THE annual general meeting of the constituents of the Hospital Sunday Fund was held in the Egyptian Hall of the Mansion House on the 11th inst., at 3 P.M., and was well attended. The Lord Mayor, as president and treasurer, presided, and amongst those on the platform were the vice-president, Sir Sydney H. Waterlow, Bart., the Rev. Canon Fleming, the Chief Rabbi, Mr. A. L Cohen, Dr. Glover, and numerous other members of the Council. The secretary, Mr. Henry N. Custance, having read the notice convening the meeting, Sir Sydney Waterlow moved that the report of the Council for 1889 be received and approved. He congratulated them upon the growing success of the movement, the total receipts this year being over £1100 in excess of any previous year. He sincerely hoped that the subscriptions would continue to increase, and be worthy of the enormous population of this great metropolis. He was speaking the sentiments of the Council generally when he thanked those who made these collections for the suffering poor. Their thanks were specially due to Mr. Ernest A. Hankey for his noble contribution of £500, and he trusted that others would follow

that example. They were also specially indebted to the Rev. Prebendary Forrest and to the Rev. Canon Fleming for the large collections made amongst their respective congregations. He referred to the sum of £2000, being 5 per cent. of the total collection, set aside for the purchase of surgical appliances, and went on to show how satisfactorily and beneficially the plan had worked. During the past year complaints had been made as to some of the hospitals, and it had been said that the Distribution Committee, in advising the Council, had not had the courage to refuse a grant when they knew the institution to be undeserving. They did not pretend to criticise the system and policy of every hospital and institution. To do so would be to raise a host of enemies. But when they found a hospital or dispensary carrying on its work in a form which they thought the constituents would not approve, they first lessened the award, and then, if the evils were not remedied, removed the institution from the list altogether. They would find from the report that two institutions had been so removed, while others had been compelled to accept the reduced grant. He thought that the public might accept the decision of the committee in a case where a grant had been refused as an indication that the institution ought not to be supported.—The Rev. E. E. Jenkins seconded the motion. He sincerely wished that the operations and funds of the Society would extend year by year, and that eventually there would be no hospital that would not share in the benefits of the fund.—The Rev. Mr. Hall asked for information regarding the working expenses, which he thought compared unfavourably with previous reports. It seemed to him that £1400 was a large sum to pay for collecting £43,000.—Sir Sidney Waterlow expressed his pleasure at being asked the question, for such questions showed that an interest was being taken in the work, and helped to elicit facts. The increase in the working expenses was accounted for by the fact that they had had to find a new home for themselves, the Mansion House being no longer available. A new office had accordingly been opened in Queen Victoria-street. He could assure Mr. Hall that the work was continuous day by day all the year round. There were at least fifty letters daily to answer, besides shoals of applications for surgical appliances &c. to be dealt with. He could furthermore say that the Fund had never lost a farthing by any robbery or any fault whatever. — The report was unanimously adopted. — Resolutions were then put and carried: 1. "That the laws of the constitution which have been in force during the past year be continued." 2. "That the Council for the year 1889, with the Rev. Henry Douthwaite in place of the Rev. W. G. Pascoe, who has left London, be re-elected for the year 1890, and that Sir James Whitehead, Bart., the late Lord Mayor, be elected to the seat he formerly occupied." 3. "That the 8th day of June be fixed for Hospital Sunday of 1890, and that the cordial co-operation of all ministers of religion within the metropolitan area be again invited in the usual way."

The proceedings concluded with a vote of thanks for presiding to the Lord Mayor, who promised to do all in his power to make Hospital Sunday in 1890 a success.

THE BRITISH NURSES' ASSOCIATION.

THE Princes' Hall and the Galleries of the Institute of Painters in Water Colours, Piccadilly, presented a brilliant spectacle on Friday evening (Dec. 6th), on the occasion of the second annual conversazione of the British Nurses' Association, which has now over 2000 members in active work as nurses throughout the United Kingdom, in addition to many of the leaders of the medical profession, at least half the matrons of English hospitals, and a large number of midwives. We may here recapitulate the objects of the Association, which are twofold—viz., to increase the usefulness of trained nurses to the public and the medical profession, by elevating the general standard of their knowledge and efficiency; and by union to enable these workers to help each other in times of need. The first part of this programme has now been commenced by the formation of a representative Council, to undertake at once the work of registration of trained nurses. The register published annually will enable the public to discover whether any given woman who terms herself a certificated nurse is actually so or not. Hitherto there has been no means of preventing large numbers of untrained women from pretending to act in this capacity, and by their ignorance causing incalculable danger and suffering to the sick. To carry out its second object, the Association hopes shortly to be able to provide nurses with a convalescent home, when they themselves, as frequently happens, are rendered ill by attendance on others; and, in future, with holiday houses at seaside or country resorts, to allow many who could not otherwise afford it, the change of air and scene their arduous work makes essential for them. It also desires to found a benevolent fund to assist nurses when out of employment or in need from other causes.

In the absence of the President of the Association, Princess Christian, who, we regret to say, has been compelled to remain for the present at Wiesbaden, to undergo treatment for an ophthalmic complaint, the guests, who could not have numbered less than 1100, and many of whom came from distant parts of the country to spend an evening with their metropolitan sisters, were received by the Vice-chairmen of the Executive Committee, Sir Dyce Duckworth, Treasurer of the Royal College of Physicians of London, Mr. Pickering Pick (Surgeon to St. George's Hospital), and Miss Thorold (matron of the Middlesex Hospital). A pleasant hour was spent in the galleries inspecting the pictures and in the exchange of greetings between those who had not met since the inaugural conversazione twelve months ago, the attractiveness of the scene being enhanced by the rendering, under the experienced direction of Mr. J. Pougher, of a selection of popular music by the "Bijou" orchestra. The company subsequently assembled in the Princes' Hall, where an excellent ballad concert was given by Mrs. Stanley Stubbs, Mrs. Hancock, Miss E. Nesbit, and Mr. J. Robertson. This was followed by a laughter-provoking musical sketch, kindly given by Mr. Corney Grain, who, to judge by the reception accorded him, is an old favourite of the nurses. The closely packed audience presented a striking and unique *coup d'œil*, the white caps of the nurses resembling nothing so much as a field of snow, relieved, however, by the dresses representative of the different institutions, the sober black gowns of the district nurses standing out in charming contrast to the pink (Great Ormond-street), grey (Victoria Hospital), blue (St. John's House), and other colours and shades too numerous to mention. It was long past midnight before the last farewells were exchanged and the nurses separated, all to meet again, it is to be hoped, and spend a similarly enjoyable evening next year. It is reported that by means of paying tickets, issued to members' friends, the large cost of the gathering has been more than covered—a fact which is most significant of the ability with which the affairs of the young Association are being conducted. Great praise is due to the members of the Executive Committee, especially to Dr. and Mrs. Bedford Fenwick, and to the well-known Secretary, Miss Catherine Jane Wood, to whose combined exertions the complete success of the conversazione was largely due.

HEALTH OF THE IMPERIAL NAVY OF JAPAN.

THE health of the Japanese Navy continues to maintain the favourable condition brought about by the sanitary improvements effected in 1884. The report of Mr. Takaki Kanehiro, the Director-General of the Medical Department, shows the average strength to have been 9148, the cases occurring during the year to have been 3452, the deaths from all causes 65, the numbers invalided 84, and the constantly non-effective from sickness 288·52. These give the proportion of 377 admissions, 7·1 deaths, 9·18 invalided, and 31·54 mean sick per 1000 of strength. The admissions and mean sick are lower, but the deaths and invaliding higher than in the preceding year, but the excess is not greater than might be reasonably expected to occur in limited numbers. Of the deaths, 21 were from violence and accidents, leaving 44 by disease, or only 4·81 per 1000 of strength. Of the violent deaths 12 were by drowning (8 of which occurred from the capsising of a boat in Yokosako Bay), 3 from accidents, and 5 by suicide. Of the deaths by disease, 20 were caused by pulmonary affections, including 10 of phthisis, and 7 by

fevers, 5 of which were by enteric fever. There were 48 cases of this form of fever under treatment, so that the deaths amounted to nearly 1 in 10, which is a low proportion. It appears to have prevailed chiefly in two ships: the *Takachiho* in Taketayo harbour had 10 cases and 2 deaths, and the *Hiei* had 24 cases, of which 2 died. The *Takachiho* had also 3 cases of cholera with 1 death; the disease did not occur in any other ship. There was an epidemic of mumps, of which 129 cases were admitted on board five ships and in the barracks at Yokosuka and Uraya. The most prevalent diseases were syphilis and gonorrhœa; of the former there were 519 and of the latter 426 cases, together giving a ratio of 103 per 1000 of the strength, or 27 per cent. of the whole admissions. Eye diseases were also prevalent, there having been 178 cases of conjunctivitis, or 19·5 per 1000 of strength. No case of beri-beri occurred during the year, thus showing the continued immunity from it, which resulted from the improved feeding of the men introduced in 1884. This fact deserves the attention of the colonial medical staff at Hong Kong. There have been some unimportant alterations in the dietary during the year, chiefly a slight reduction in the amount of rice, barley, and pickles, and a corresponding increase in bread, vegetables, and milk.

Of 1338 applicants for admission to the navy as seamen, 1034 were rejected, or 773 per 1000. Of these, 539 were rejected for "badness of physical condition," but this term included 363 deficient in stature, and 495 were rejected on account of disease, 206 of these having skin diseases. In the appendix, the table showing the physical condition of the recruits has been reproduced, with additions, for the last two years, but does not include those of 1888. We would also point out that the strength in the table on page 8 does not correspond with that stated in the letter-press, and that the addition of the figures in the first column is incorrect.

IMPROVED FACILITIES FOR INVALID TRAVELLING BY RAIL AND SEA.

THE CLUB TRAIN.

(FROM OUR SPECIAL CORRESPONDENT.)

Improved Facilities for Patients Travelling to the Continent. —The Warming and Ventilation of Saloon Cars.—Special and Reserved Railway Accommodation.

AMONG the many permanent benefits resulting from the Paris Universal Exhibition, the notable improvement in the means of communication between England and France will be especially welcome to the ever-increasing crowd of travellers that yearly pass from one country to the other. Not many years ago the French ports could only be reached in very small steamers that seemed constructed for the purpose of producing the maximum amount of sea-sickness with the smoothest sea and in the shortest possible time. But now on all the three principal routes—the Calais, the Boulogne, and the Dieppe lines—there are fine ocean-going steamers that travel much more rapidly and steadily, and afford better cabin and deck accommodation to passengers. The most notable and most recent improvements have been accomplished on the Calais and Dover line. Here there are steamers that have succeeded in crossing the Channel in sixty-five minutes, with the accompaniment of the newest and most luxurious of all means of travel, the Club Train. Agreeable as this may be to the general public, it is of life-saving importance to the invalid. The principal drawbacks to wintering abroad have always been the fatigue, the exposure, and the hardships of the journey. But this danger and inconvenience have now been notably mitigated. It may safely be said that the great majority of travellers stand in "bodily fear" (to use a police-court term) of sea-sickness. The hale and hearty may face this contingency, and a little sea-sickness may prove a wholesome, though unpleasant, experience; but the weak, and patients suffering from organic disease, cannot brook the wear and fatigue of such drastic treatment. Consequently, the majority of patients, and even of the general public, select the shortest sea route. But the very shortness of the distance augments its terrors, for here the sea is most cramped by the land on either side, and it is precisely in the narrowest part of the Channel that the movement of the waters becomes so irregular and "choppy" as to readily produce sea-sickness. It is not so much the size as the peculiar formation of the waves that upsets even persons who have endured long journeys on the open ocean. Under these circumstances, the construction of larger and swifter vessels becomes a double blessing, for we have less motion and a quicker passage. Formerly, to cross from Dover to Calais it was necessary to travel by night, or to start at an inconveniently early hour in the morning; and in both cases the crossing was effected in a very small ship, which took a good hour and three-quarters to effect the passage. Now there are four trains both ways instead of two. The night passage is effected in the small steamers. The first train, at 8.40 A.M., corresponds with the *Invicta*, a ship which is particularly steady at sea, and can cross the Channel in an hour and twenty minutes. The arrival of this vessel at Calais is timed to meet the largest number of trains proceeding to all parts of Europe. The next departure from London is, however, more convenient, and is patronised by the largest number of passengers. The train starts at 11 A.M., connecting with the three magnificent new steamers, the *Empress*, the *Victoria*, and the *New Calais-Douvres*, which can cross in an hour and five minutes. These same ships serve for the Club Train, and it is only the night train, that leaves London at 8.15, which connects with the old and small boats.

Undoubtedly the invalid, for whom special precautions are necessary, will, if possible, take the Club Train. This will necessitate an extra outlay, over and above the first-class fare, of 16*s.*; or, if the place be booked beforehand, of 18*s.* 6*d.* The Club Train starts both from Charing-cross and Victoria Stations at 3.15 P.M., and consists of luxurious saloon carriages that communicate one with another, enabling the passenger to walk the whole length of the train. A very soft and springy carpet deadens the vibrations, and adds to the warmth and comfort of the saloons. Before the arm-chair seats there are tables, so that reading &c. may more easily be enjoyed. One of the cars is fitted up as a smoking saloon, and there are ladies' and gentlemen's lavatories attached to each car. The central car is divided into small compartments containing two or four places in each. Here the invalid may lie down unobserved by the rest of the passengers, and here also the medical attendant would be more at ease in administering to the wants of his patient. Further, it would be easier to maintain a given temperature in one of these separate compartments than in the general saloon. The heat is supplied by hot water coils fitted round the sides of all the carriages; and in a very small compartment, where the attendant sits, there is a small coke stove for this purpose. It must, however, be acknowledged that in respect of the warming and the corresponding problem of the ventilation of the carriages there is still much room for improvement. The service is quite new and evidently this question has not been taken thoroughly in hand. On questioning several of the attendants, it became quite clear that they had no distinct plan, no definite instructions. At Charing-cross one of the attendants said he kept his carriages warmed up to 70°F., and certainly, though it was freezing at the time, they were very hot. On investigating the matter more fully, I found, however, that the thermometer was suspended in the little compartment where the stove is placed, and there certainly the temperature was at 70°, and might have been much higher; but this did not represent the temperature of the saloons where the passengers sat.

However carefully the train may be warmed before the arrival of the passengers, the opening and shutting of the doors, the delay in handing in parcels and rugs, the eager opening of windows for a last word or a final shake of the hand with some friend on the platform, soon defeat the most careful precautions and entirely alter a previously prepared temperature. Thus, a day later, while it was still freezing, the temperature in the saloon of the Victoria Station Club Train had fallen, when the time of departure arrived, to 45°F. On the platform of the station Steward's thermometer recorded 34°, so that the inside of the train was only eleven degrees warmer than the platform. This is not surprising considering the long time the carriage doors were kept open, particularly as it was by this same train that the Hon. Mrs. Robert Bruce was starting for Monte Carlo when she was seized by a fatal syncope. Of course this catastrophe occasioned some confusion, and as the

unfortunate lady had to be carried out of the carriage, the doors were probably kept open for a much longer time than usual. From one cause or another it must often happen that the carriages will become exceptionally cold, and this would not so much matter if the fact were known, watched, and corrected immediately. But in the train in question the attendants had no thermometer whatever, and, no complaints being made, were not aware that anything abnormal had occurred. With Immisch's pocket and clinical thermometer, after ascertaining that the temperature in the saloon had fallen to 45°, I proceeded to take the temperature of the smoking saloon, and found it to be 55°. Evidently there had been less cause of disturbance in this part of the train. Had the attendants been on the watch for such variations these defects might have easily been remedied. As it was, in the absence of thermometers and of proper instruction, the temperature of the saloon during the whole of the journey to Dover barely rose to 50°, while that of the smoking saloon never fell below 55°. Every carriage should have at least one thermometer, and these the attendants should watch and never allow to fall below a minimum, which might be varied according to the season of the year. With a little care, by watching both the doors and the thermometer the temperature within the saloon need not have fallen so low even on this freezing day, and might certainly have been promptly raised again to a degree more agreeable to the patients who were travelling in the train.

The matter of ventilation is not so easily arranged. The centre of the carriage roof is slightly raised, forming a sort of elongated lantern. On each side there are small windows that open inwards from the top, so that the air entering is thrown upwards, is broken up against the ceiling, and thence deflected into the carriage. Thus the direct draught is avoided. The objection to this very simple device is that its efficacy is at the mercy of the caprice or the neglect of the attendants and the passengers. The latter are rarely agreed on such points. The one desires to open a great number of ventilators, and glories in a plentiful supply of air; the other is in dread of draughts, and very liable to chills. Apart, then, from such means as are subject to the whims and fancies of the travellers, it would be desirable that fresh air should be automatically and regularly supplied to the carriages. This, of course, is done accidentally, though to an unknown and unreliable extent, by the cracks and chinks of the doors &c., and the possible porosity of some of the material with which the carriages are built. But such fortuitous ventilation is not worthy of this scientific age. Perhaps the little compartment where the stove stands might be utilised as a mixing room, where hot and cold air could be blended previously to admission into the saloon cars. In any case, something yet remains to be done in this direction. By such means travelling will be rendered much more agreeable to all, and much less dangerous to the weak and infirm. Yet these benefits, though of so extended a character, will involve little or no extra expense. More science in the methods employed, and more care and intelligence in their application, are undoubtedly necessary, but this does not necessitate any financial expenditure worth mentioning.

Apart from the saloons, the Club Train has a special compartment where on the return journey to London the luggage which has come from the Continent is examined as the train proceeds. This is a very material advantage. Not only is it a great saving of time, but the risk of sudden exposure to the draughts and changes of temperature between the train, the platform, and the Custom House Offices is avoided, as well as the hurry and worry of the examination. This being done in the train itself, there is plenty of time and no need for any anxiety. The same convenience is provided in the French train which meets the boat as it arrives at Calais. There the luggage is examined during the course of the journey to Paris. At Calais not a moment is lost. The train can be started about five minutes after the boat arrives. The passengers are not as a rule very numerous, so that the luggage is soon transferred from the boat to the train. The passengers have no cause to go into the railway station. There is a restaurant carriage in the train, and a *table d'hôte* dinner is served shortly after the departure from Calais—namely, at 7 P.M. The train reaches Paris at 11.15 P.M., where, the luggage having been examined in the car, the passenger has nothing to do but to drive to his home or hotel, and may hope to be comfortably in bed by midnight. Thus the traveller who has lunched in London, who has been in the Strand at three o'clock, and has crossed the Thames some few minutes later, will find himself, in seven hours and three-quarters, by the banks of the Seine and in full view of the Paris Boulevards.

Both with respect to the Club Train and the other trains, the Chatham and Dover Railway Company are very ready to give whatever assistance is within their power to invalids and others requiring special care. By communicating with the company, compartments can be reserved both on the English and the French side, and the agents of the company are ready to meet passengers at the landing stage and tender every sort of help needed. For instance, I saw a paralysed lady taken from the boat and laid down in a reserved compartment of the French train at Calais without any difficulty whatever. There is at Calais a body of porters called *les rouleurs*, who are admirably organised. They are kept under the strictest discipline by a self-elected captain, and form a very close society. To be admitted into this corporation it is necessary to possess exceptional strength and agility, and also to pay a deposit of £40. All sums of money received must be given over to the common fund. The receipts are divided among the members of the Association, and thus there is no unseemly squabbling or rivalry between the men to obtain the most remunerative jobs. It would be difficult to find anywhere a more reliable and a more steady set of men. With or without the invalid chair they easily carry patients in and out of the trains or the boats, and the fact that the services of such well-organised porters may always be counted upon greatly augments the facilities of the journey. As an illustration of the trouble the company will take to satisfy the desires of travellers, a lady patient wrote some time ago that she wished to proceed from London to the Riviera, but would only venture on the journey if a hammock was provided for her the whole way. Consequently a hammock was slung in a cabin specially fitted up for the purpose. A compartment of the French train had to be altered, and a hammock fixed in it in the same manner. But this was not all. The lady insisted that she would not travel in the train unless her hammock was fixed in the last carriage but one. The French Northern Railway Company has shown itself in all these circumstances most courteous and ready to meet the demands addressed to them by the agents of the Chatham and Dover Company. In this case, therefore, particular care was taken that the hammock and the carriage in which it was placed should occupy precisely the portion of the train desired by the passenger. What is perhaps a still greater strain on the obliging disposition of both the English and French companies is the fact that many intending passengers write and make all manner of arrangements, and then, at the last moment, alter all their plans or postpone their journey. The ordinary French trains that meet the two day boats have a small saloon with four places and a lavatory, which can be secured by paying 4 francs 40 centimes above the first-class fare for each place; and though this does not offer the luxuriousness and roominess of the Club Train, still this little saloon compartment contains what is essential to the proper comfort and care of a patient. In all these circumstances, however, considering that the accommodation must necessarily be limited, and that it is impossible to foresee precisely how many passengers may come by any one train, it is indispensable to write beforehand so as to make sure that the required seats &c. shall be reserved. Of course, in all this I only allude to invalids or delicate persons who cannot safely encounter the little hardships and accidental inconveniences which the young and robust often regard as adding to the charms of travelling. In a subsequent letter I will describe how the facilities of communication between London and the Continent have also been developed by the remarkable improvements of the Port of Calais, and will endeavour to show that the wonderful augmentation of English traffic and the increased number of English residents in that town must make us feel a growing interest in all that relates to its progress and prosperity.

Calais, December, 1889.

THE HEALTH OF CEYLON has not been satisfactory of late, fevers of a malarial type and cholera having prevailed in several parts of the island. One of the most serious outbreaks occurred among the pilgrims to the Roman Catholic shrine at St. Anna's, scaring the pilgrims, who quickly dispersed, carrying the infection with them.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

IN twenty-eight of the largest English towns 5354 births and 3946 deaths were registered during the week ending Dec. 7th. The annual rate of mortality in these towns, which had been 18·2 and 19·0 per 1000 in the preceding two weeks, further rose last week to 21·5. During the first ten weeks of the current quarter the death-rate in these towns averaged 18·4 per 1000, and was 2·5 below the mean rate in the corresponding periods of the ten years 1879–88. The lowest rates in these towns last week were 14·2 in Birkenhead, 16·7 in Brighton, 17·3 in Nottingham, and 18·0 in Leicester. The rates in the other towns ranged upwards to 28·4 in Wolverhampton, 29·8 in Huddersfield, 30·7 in Derby, and 36·7 in Plymouth. The deaths referred to the principal zymotic diseases, which had been 353 and 343 in the preceding two weeks, rose last week to 383; they included 87 from measles, 87 from whooping-cough, 70 from scarlet fever, 67 from diphtheria, 39 from "fever" (principally enteric), and not one from small-pox. These zymotic diseases caused the lowest death-rates during the week in Leicester and Brighton; and the highest rates in Salford, Bolton, and Plymouth. The greatest mortality from measles occurred in Wolverhampton, Nottingham, Sunderland, and Norwich; from whooping-cough in Wolverhampton, Hull, and Bolton; from scarlet fever in Blackburn and Plymouth; and from "fever" in Preston, Birkenhead, and Halifax. The 67 deaths from diphtheria in the twenty-eight towns included 47 in London, 5 in Salford, 2 in Liverpool, 2 in Preston, 2 in Sheffield, and 2 in Newcastle-upon-Tyne. Small-pox caused no death in any of the twenty-eight great towns. Only one small-pox patient was under treatment at the end of the week in the Metropolitan Asylum Hospitals, and one in the Highgate Small-pox Hospital. The number of scarlet-fever patients in the Metropolitan Asylum and London Fever Hospitals at the end of the week was 1663, against numbers increasing in the preceding twenty-three weeks from 559 to 1650; 154 cases were admitted to these hospitals during the week, against 152 and 132 in the preceding two weeks. The deaths referred to diseases of the respiratory organs, which had increased in the previous six weeks from 281 to 345, further rose last week to 432, but were 33 below the corrected average. The causes of 93, or 2·4 per cent., of the deaths in the twenty-eight towns last week were not certified either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Sunderland, Portsmouth, and in five other smaller towns; the largest proportions of uncertified deaths were registered in Liverpool, Norwich, Bristol, and Preston.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had increased in the preceding four weeks from 19·8 to 21·0 per 1000, further rose to 23·9 in the week ending Dec. 7th; this rate exceeded by 2·4 the rate that prevailed during the same week in the twenty-eight large English towns. The rates in the Scotch towns last week ranged from 18·0 and 19·7 in Aberdeen and Dundee, to 26·5 in Leith and 26·6 in Paisley. The 612 deaths in the eight towns showed a further increase of 76 upon the numbers returned in recent weeks, and included 20 which were referred to whooping-cough, 13 to scarlet fever, 11 to measles, 10 to diarrhœa, 9 to diphtheria, 4 to "fever" (typhus, enteric, or ill-defined), and not one to small-pox; in all, 67 deaths resulted from these principal zymotic diseases, against 53 and 81 in the preceding two weeks. These 67 deaths were equal to an annual rate of 2·6 per 1000, which exceeded by 0·5 the mean rate last week from the same diseases in the twenty-eight English towns. The fatal cases of whooping-cough, which had been 7 and 21 in the preceding two weeks, were last week 20, of which 9 occurred in Glasgow, 8 in Edinburgh, and 2 in Greenock. The 13 deaths from scarlet fever corresponding with the number in the previous week, and included 8 in Leith and 3 in Glasgow. The 11 fatal cases of measles showed a decline of 7 from the number in the previous week; 7 were returned in Edinburgh and 3 in Glasgow. The 10 deaths attributed to diarrhœa showed a further decline from recent weekly numbers. The 9 deaths from diphtheria corresponded with the number in the previous week, and included 3 in Glasgow, 2 in Greenock, and 2 in Paisley. Of the 4 deaths referred to "fever" 2 occurred in Greenock. The deaths from acute diseases of the respiratory organs in the eight towns, which had been 149, 135, and 121 in the preceding three weeks, rose last week to 166, and exceeded the number in the corresponding week of last year by 46. The causes of 80, or more than 13 per cent., of the deaths registered in the eight towns were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 24·2 and 28·7 per 1000 in the preceding two weeks, declined again to 27·8 in the week ending Dec. 7th. During the first ten weeks of the current quarter the death-rate in the city averaged 25·6 per 1000, the mean rate during the same period being 16·9 in London and 19·2 in Edinburgh. The 188 deaths in Dublin showed a decline of 6 from the number in the previous week; they included 12 which were referred to "fever" (typhus, enteric, or ill-defined), 3 to whooping-cough, 3 to diarrhœa, 2 to measles, 1 to diphtheria, and not one either to small-pox or scarlet fever. Thus the deaths from these principal zymotic diseases, which had been 14, 9, and 26 in the previous three weeks, was last week 21; they were equal to an annual rate of 3·1 per 1000, the rate from the same diseases being 2·2 in London and 3·7 in Edinburgh. The deaths referred to "fever," which had been 6 and 11 in the previous two weeks, further rose last week to 12; whereas the fatal cases of whooping-cough, diarrhœa, and measles showed a decline from the numbers in the previous week. The deaths of infants showed a considerable increase, while those of elderly persons were fewer by 5 than the number in the previous week. Five inquest cases and 6 deaths from violence were registered; and 52, or more than a quarter, of the deaths occurred in public institutions. The causes of 30, or 16 per cent., of the deaths in the city were not certified.

THE SERVICES.

ARMY MEDICAL RESERVE OF OFFICERS. — Surgeon-Major Alexander Disney Leith Napier, M.D., resigns his commission (dated Dec. 11th, 1889); Acting Surgeon John Joseph Ardavon Vincent Constantine Raye, 1st City of London Artillery Volunteers, to be Surgeon, ranking as Captain (dated Dec. 11th, 1889).

INDIA OFFICE.—The Queen has approved of the following promotions made by the Governments in India:—Bengal Medical Establishment: Surgeon-Major George Thomson to be Brigade Surgeon (dated Oct. 1st, 1889); Surgeons Samuel John Thomson, Robert Neil Campbell, Edward Salisbury Brander, Fakir Chundra Chatterjee, and George Augustus Emerson to be Surgeons-Major (all dated Oct. 1st, 1889).—Madras Medical Establishment: Surgeon Charles Henry Bennett, M.D., Surgeon William Henry Thornhill, M.D., and Surgeon Maneckjee Eduljee Reporter to be Surgeons-Major (all dated Oct. 1st, 1889).—Bombay Medical Establishment: Surgeons Robert Manser, Henry Adey, Alfred William Frederick Street, D.S.O., Henry Pruse Jervis, David Charles Davidson, James Charles Harding Peacock, Kaikhosro Sorabji Nariman, and Arthur Francis Sargent to be Surgeons-Major (all dated Oct. 1st, 1889).

YEOMANRY CAVALRY.—Hampshire (Carabiniers): Geo. Fuller Ashbridge England, M.B., to be Acting Surgeon (dated Dec. 7th, 1889).

ADMIRALTY.—The following appointments have been made:—Alexander Turnbull, M.D., Deputy Inspector of Hospitals, to Plymouth Hospital, and Henry F. Norbury, M.D., C.B., Deputy Inspector of Hospitals, to the Medical Department of the Admiralty (both dated Jan. 1st, 1890); Staff Surgeon James L. Sweetnam, M.D., to Nankin (dated Dec. 19th, 1889); Fleet Surgeon Robt. Hay to Haslar Hospital, temporarily (dated Dec. 21st, 1889); Fleet Surgeon Thomas Bolster to the *Camperdown*, Staff Surgeon Albert C. Queely to the *Euphrates*, Surgeon Edward B. Townsend to the *Camperdown* (all dated Dec. 19th, 1889); and Mr. Duncan Robert Macdonald to be Surgeon and Agent at Redheugh (dated Dec. 5th, 1889).

VOLUNTEER CORPS. — *Artillery:* 1st London (City of London): Acting Surgeon J. J. A. V. C. Raye to be Surgeon

(dated Dec. 7th, 1889).—*Royal Engineers* (Fortress and Railway Forces): 2nd Lanarkshire (the St. Helen's): Surgeon E. F. Hall, M.D., to be Surgeon-Major, ranking as Major (dated Dec. 7th, 1889).—*Rifle:* 7th (Clackmannan and Kinross) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Thomas Milne, M.D., to be Acting Surgeon (dated Dec. 7th, 1889).

NURSING SISTERS IN THE ARMY.—A Royal Warrant has been issued by the Secretary for War directing that in future candidates must be over twenty-five and under thirty-five years of age, and have had at least three years' preliminary training and service in a civil hospital. They are not to continue in the service after reaching the age of sixty.

Correspondence.

"Audi alteram partem."

COLOUR TESTS FOR RAILWAY SERVANTS.

To the Editors of THE LANCET.

SIRS,—As it appears that this subject has recently caused and is still causing some discussion both in the lay and medical press, and that none of the tests hitherto proposed seem to satisfy all parties, I should feel obliged if you would kindly allow me to describe a simple piece of apparatus which I constructed some time ago, and with which I have tested several drivers and guards. The point to be ascertained really is, "Can drivers and guards readily distinguish red and green lights under varying conditions of the atmosphere at distances ranging roughly from fifty yards to a mile"? That a man can recognise a mass of red or a mass of green placed close to him goes for little. The area of illumination of a lamp, as it appears to us, is inversely proportionate to the square of its distance from us; and therefore by placing immediately in front of a coloured lamp fixed, say, six yards from us a screen perforated with different-sized apertures, we can mathematically reproduce the effect of a lamp of a given size at different distances; and this is the principle on which my test is based. A man examined by this method is placed under (practically) exactly the same conditions as if he were taken out on to the line and asked to look at different signal lights—some near, some far off, and some in groups. It should be borne in mind that heavy smokers—and I think I am not wrong in assuming that engine-drivers consume a good deal of tobacco—sometimes become the subjects of a central scotoma, with a corresponding amount of colour-blindness; so that central coloured rays (such as those emanating from a six-inch lamp at 800 yards), which would be focused at a point corresponding to the affected region of the fundus, would not be recognised, though the rays from the same lamp held only a few yards off would be judged quite correctly, as they would then impinge on more *peripheral* portions of the retina. My instrument consists essentially of a lamp contained in a light-tight lantern, having in it a circular aperture one inch in diameter. About two inches in front of this aperture is a metal screen six inches square, also pierced with a corresponding hole of the same size as that in the lantern. Between the screen and the lantern (and attached to the former) is a brass carrier holding a red and a green glass, and so arranged that either may at will be placed in the field by a slight movement of the finger of the operator. In front of the screen is a metal disc, with a number of holes of different sizes bored through it, and disposed at equal distances near its margin. On rotating the disc the holes are brought one after another opposite the illuminated area, and act like "stops" in a photographic lens. The result of this is to limit the "coloured light" seen by the examinee to the size of the apertures in the disc, and to represent to his eye a lamp of a given size at successively increasing or decreasing distances. The red and green glasses are changed about each time at the operator's pleasure. One segment of the disc is devoted to another phase of the test, and is perforated with groups of holes in various relations to each other. These are supposed to represent tail lights of distant trains. The examinee must be able to see not only their colour, but also their number and positions. Finally, a second disc is placed in front of the first, and is fitted with a series of neutral tint glasses of different intensities, to present the appearance of various degrees of fog. The whole apparatus stands in a dark room on a level with, and at a distance of six yards from, the examinee's eyes, which are each tested separately. I think if Mr. Stretton were to see my arrangement he would be satisfied that the test is a fair one.

I shall be happy to allow any gentleman interested in the subject an opportunity of inspecting the test if he will communicate with me. Meanwhile I shall be glad to receive any expression of opinion on the method I have so imperfectly described.

I am, Sirs, yours obediently,

Seymour-street, W., Dec. 10th, 1889. A. ST. CLAIR BUXTON.

To the Editors of THE LANCET.

SIRS,—I admit the advantage which would be gained by using lamps with coloured glasses in testing colour vision, but these are obviously not readily used in a consulting-room. If the railway companies were willing to appoint someone on purpose to test the vision of their *employés*, lamps, railway signals, high and low lights in various combinations and distances might be used. Until this or some similar method is adopted I am not without hope that my instrument, simple though it be, may prove of use to the railway surgeon as a practical test for colour-blindness in railway *employés*. From men working practically on railways I learn that the distance the lights can be distinguished so as to recognise what train is advancing or receding, and whether it is a mail, a slow, or goods train, varies from over a mile to twenty or thirty yards. These facts alone are, I think, sufficient to show that any system which involves the use of railway lamps as a test for colour vision, to be of real service for these varying distances for different combinations of lights, would absorb almost all the time of a person experienced in testing for errors in refraction, colour vision, or visual acuity.

I am, Sirs, yours faithfully,

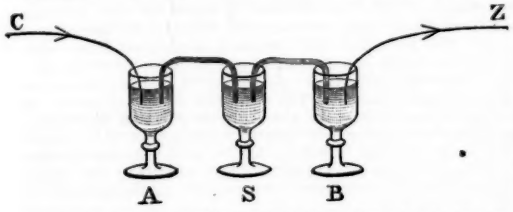
Carlisle, Dec. 9th, 1889. H. A. LEDIARD.

THE TREATMENT OF CANCER BY ELECTRICITY.

To the Editors of THE LANCET.

SIRS,—Dr. Steavenson appears, from his letter in your issue of Dec. 7th, to have misunderstood my paper. He has, I have no doubt unintentionally, misrepresented my deductions drawn from experimental evidence. He states in his letter that "the experiments brought forward by Dr. Parsons to prove that no change takes place between the poles, &c." Now, I have never said that *no change* takes place. I will quote my words as they were printed: "All these experiments demonstrated in a conclusive way that the passage of a constant current does not cause any *decomposition* between the poles, although there must of necessity be an exchange of atoms between the molecules." I actually state that there is a change in the interpolar region, but no decomposition. Dr. Steavenson's views appear to me to be fallacious, and his own experiments help to prove my deductions and to refute his own theories. I will endeavour to make this clear. When a constant current is passed through any given portion of the body, acids are found to appear at the positive pole and bases at the negative pole, and they are found at the poles only, and not in the space between them. Water furnishes the simplest example of this decomposition of molecules, when hydrogen appears at the negative and oxygen at the positive poles. Is this *decomposition* confined to the area in contact with the poles, or does it take place throughout the area between them? It was this very important question, from a practical point of view, that I tried to elucidate by experiment. To put it in a practical form: Supposing a tumour is buried in the liver, and one pole from a battery is placed on the right hypochondrium, while the other is placed in such a position on the back that the current between them passes through the liver. We find acids and bases at their respective poles on the skin resulting from the decomposition of molecules. Are these acids and bases derived from the tissues in contact with the poles only, or do the whole of the deeper parts traversed by the current participate in the decomposition? I devised the following experiment to try to ascertain what happened, using the same diagram. The three cups, A, S, B, were filled with a standard

solution of iodide of potash, and connected together by a stout lamp-wick saturated in the solution. The two platinum electrodes from a battery were then brought, one into each of the end glasses, A and B. The experiment arranged in this way presents in one respect a similarity to the application of the current to the body. Because there are only two poles, and the acids and bases appear in their neighbourhood only in the two end glasses, the centre glass, S, contains no pole, and it can therefore be used to represent the deeper parts of the body away from the poles, and called the interpolar region. After passing a constant



current for some time, I found that the iodide of potash in the end glasses, A and B, was decomposed into iodine and potash, while in the centre glass no decomposition had taken place. It still contained as much iodide of potash as before. Dr. Steavenson does not say whether he has tried this experiment in the same way, or whether he obtained a similar result. But he alters the experiment and connects the glasses with copper wires, and of course a different result follows. If copper wires be used to connect the glasses, there are two poles in each glass instead of one pole in each of the end glasses. The centre glass, instead of containing no pole, actually contains two. It therefore ceases to represent the interpolar region. The experiment thus carried out by Dr. Steavenson is utterly useless for elucidating the point under discussion. His third experiment, as well as his second, prove in a remarkable way my contention that "there is no decomposition between the poles, although there must of necessity be an exchange of atoms between the molecules." To take his third experiment as the best example, he places dilute sulphuric acid in the centre glass, S, and a solution of chloride of barium in the two end glasses, A and B. Now what happens after the passage of the current? The dilute sulphuric acid, instead of decomposing, exchanges its atoms of hydrogen for atoms of barium, and forms sulphate of barium, which remains in the centre glass undecomposed. This proves the two very points that I contend for, that there is an exchange of atoms by the molecules, but no decomposition in the interpolar region. My clinical experience, when ether is given, is quite the reverse of Dr. Steavenson's theory that electrical shocks cause inhibition of the heart. I passed 600 milliampères across the pneumogastric in the neck in a case of Dr. Burton's, and the circulation, if anything, improved. By comparing the action of the constant current on cancer with that by the interrupted voltaic current, I find that the former produces a destruction of tissues, both healthy and morbid, close to the poles, while the cells in the interpolar region retain their vitality; that the interrupted voltaic current apparently causes atrophy of the morbid cells from pole to pole in the path of the current, if the details of the application are efficiently carried out.

I am, Sirs, yours faithfully,

Collingham-place, S.W., Dec. 9th, 1889. J. INGLIS PARSONS.

THE MORTON LECTURE ON CANCER.

To the Editors of THE LANCET.

SIRS,—In reference to the letter of Mr. Marshall in your issue of Saturday last, and also to that of Dr. Inglis Parsons of the preceding week, may I be permitted to call attention to a short paper of mine on the intimate nature of Cancer, which I published in THE LANCET of 1863, vol. ii., page 713, in which I expressed views on this point almost identical with those which these two able writers have so recently done, and which views were further commented on by me in 1868.[1] I am sure we have all read Mr. Marshall's closely reasoned lecture with the deepest interest, and also gladly welcome Dr. Parsons' suggestions; and further feel of how little real consequence it is who may have first taken a particular view of the subject so long as it is true, whilst I am quite aware that some other author or authors may have preceded myself in the thoughts I have there expressed. But whilst I feel sure that we all care little except for the true elucidation of this dire disease, yet as a question of precedence has been raised, it seems to be but justice to myself to point to the above paper of mine published so long ago as 1863. I am, Sirs, yours faithfully,

Norwich, Dec. 9th, 1889. PETER EADE, M.D., &c.

[1] THE LANCET, vol. i., page 603.

COMPULSORY VACCINATION.

To the Editors of THE LANCET.

SIRS,—You have now been good enough to honour me with a third paragraph in your journal under the above heading. In the first you were misled into attributing to me what I did not say. In the second you withdrew that error, and promised to comment on what I did say. In the third you do so comment, promising that your readers will be thus enabled "to judge of the accuracy" of my assertions. Your comment on my assertion, that in the Perth Infirmary in 1887 there were eight revaccinated cases of small-pox with two deaths, consists of a counter-assertion by Dr. Graham that of the eight cases information as to the revaccination was wanting in five, and that in two more the revaccination had only immediately preceded the attack; and that the two deaths were taken from these seven cases. I can only reply that this account of events now two years old differs materially from that given at the time by Mr. P. Campbell, one of the directors of the Perth Infirmary. The following extract from a letter of his, dated Perth, Nov. 15th, 1887, now lying before me, was the authority for my statement:—

"As you are desirous of knowing about the patients who had small-pox in the Perth Infirmary, I made inquiries of the house surgeon this morning. Of the eight patients, six recovered and two died; all had been at least twice vaccinated, and some of them three times. The two who died had been twice vaccinated, but the one was far gone with heart disease and the other had a complication of troubles as well as small-pox."

Your readers, whilst judging of my accuracy, will not fail to judge of the discrepancy of these two accounts. Clearly, on Nov. 15th, 1887, the house surgeon had no doubt as to the revaccination of all his eight cases. And the complications then alleged by the house surgeon as explanation of the two deaths are unknown now, or at least unmentioned, by Dr. Graham. I might therefore follow your example, and call on your readers to judge of the accuracy of Dr. Graham. But I prefer to avoid a phrase which might seem to reflect on the truthfulness of a gentleman quite unknown to me. Evidence, indisputable and undisputed, of the failure of revaccination to protect from small-pox lies so ready to my hand that I have no need and no desire to specially defend any particular disputed case. My object in asking the insertion of this letter is simply to defend my own "accuracy," and to show that I did not make the statement in question without good and sound authority.

I am, Sirs, yours obediently,

ALFRED MILNES, M.A., F.S.S.

Goldhurst-terrace, N.W., Dec. 8th, 1889.

LIVERPOOL.

(FROM OUR OWN CORRESPONDENT.)

Appointment of a Lecturer on Diseases of Children at Liverpool University College.

DR. PETER DAVIDSON has been elected Lecturer on Diseases of Children at the Medical Faculty, University College, Liverpool. He has had considerable practical experience in the department of medicine on which he will lecture, having been for some years past honorary physician to the Infirmary for Children, honorary medical officer to the Bluecoat Hospital, and medical officer to the Industrial Schools, Liverpool.

Cases of Longevity.

Some weeks ago there appeared in THE LANCET notes of extraordinary longevity in a man who resided in

Liverpool, and had long passed his hundredth year. Two more instances of extreme old age in local residents have now to be recorded. The first is that of a female who died recently in a Home for the Aged, which she entered on attaining her 100th year, reaching at her death the advanced age of 108. The case appears to be well authenticated, the deceased having been born in 1781. Though a native of Ireland, she had lived in Liverpool many years, and her son, who is still employed here, is seventy-eight years of age. She was seventeen years old at the time of the Irish Rebellion. The second case is that of the Rev. John Jones, or, as he was most generally called, Archdeacon Jones, though he resigned that office some years ago. He was born in London on Oct. 6th, 1791, had completed his ninety-eighth year, and at the time of his death, on the 5th inst., was, it may be assumed, the oldest clergyman in the Church of England. His father was of Welsh descent, and a captain in the army. The deceased took his B.A. degree in January, 1815, in which year (seventy-four years ago) he became deacon, "minister designate," of St. Thomas's, Seaforth, near Liverpool, priest and first incumbent of St. Andrew's, Liverpool. Here he remained thirty-five years, having considerable reputation as an eloquent preacher and earnest worker. It is a curious coincidence that in the same year (1815) which was so eventful to him the watering-place of Waterloo was formed, being so named after the famous battle of that year. It subsequently became a large and important township, and here Mr. Jones came as incumbent of its then only church in 1850. He continued the duties of archdeacon, to which office he was appointed a few years later, till 1886, and was able to take some slight part in the service even more recently. He retained most of his faculties up to within a very few years, and his memory remained unimpaired almost up to the last, till which time he was conscious. As an example of his strength and vigour, it may be mentioned that six years ago he fractured his thigh, but made an excellent recovery, though with a false joint.

The proposed Criminal Appeal Court.

The assizes commenced on the 6th inst., and in his charge to the grand jury Justice Grantham alluded to the wish which had been so frequently expressed for a Court of Criminal Appeal, indicating, without naming, the Maybrick case as the one which had led to its demand. He pointed out that the *modus operandi* in civil and criminal cases was totally dissimilar, that adopted in criminal cases being all along fair and open towards the accused, from the moment of arrest by a police officer until the final determination of the case by the jury; in fact, that the wish appeared to be to get the prisoner off. He contended that the present system worked well, that the Home Secretary possessed powers which a Court of Criminal Appeal would not have, and that the effect of such a court would be to render common juries as careless and indifferent as they are now careful and painstaking.

Paraffin Lamp Fatality.

A woman died at Birkenhead last week, another victim to paraffin lamps. Notwithstanding the many warnings which have been given as to the dangers of such a practice, she attempted to put out a lamp by blowing down its chimney. A loud explosion followed, and the unfortunate woman died within a few days from the injuries received.

Liverpool, Dec. 10th.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The Assizes.

THE assize recently concluded here was a very heavy one. Amongst the cases tried were two in which members of the profession figured as prosecutors. A discharged attendant at the Prestwich Asylum was charged with violently assaulting Mr. Ley, the medical superintendent, the only grounds for this being that he had been discharged by Mr. Ley for misconduct. The judge characterised it as "a cowardly attack on an unsuspecting man," and sentenced the prisoner to nine months' imprisonment. The second case was illustrative of one of the perils and annoyances that beset the medical practitioner in his daily work. Jane Boston, a young woman, was indicted "for having written and published a false, scandalous, and defamatory libel" upon Mr. T. H. Pinder, surgeon, practising in one of the suburbs of this city. Mr. Pinder is well known in Manchester, as a man of high character and standing, holding honorary appointments at various of our charities. The prisoner had received the greatest kindness at his hands, and not only had he treated her for some time gratuitously, but had actually assisted her pecuniarily when she was in much distress from continued ill health. It was not in the least suggested that any improper relations had existed between them. The prisoner had got some delusion into her head at a time when she was under the influence of morphia, and she had written and circulated most damaging statements about Mr. Pinder. Counsel for the prisoner admitted that there was no real defence to the charge, except the fact that the woman's mental condition was such as to render her scarcely responsible for what she did. His lordship said that the prisoner "had made the gravest imputations on the character of Mr. Pinder. It was now made clear in the sight of all men that these were absolutely false. The language used appeared to be that of a person scarcely in her right senses. A stop must be put to such annoyance. Owing to her condition he would pass the lenient sentence of one month's imprisonment."

Hospital Sunday Fund.

At the annual meeting of the Hospital Saturday and Sunday Funds several interesting statements were made. The two collections this year yielded a total sum of £8210, being nearly £200 more than in the preceding year, this increase being chiefly due to a larger amount received from the Saturday collections, the workshops &c. where weekly contributions are raised steadily increasing in number. The committee complain of the small amount received from the surrounding towns, notwithstanding a large proportion of hospital patients come from these same districts, and they suggest that more stringency should be exercised in admitting and treating patients from towns which do not contribute. An unusual feature in the report was that one hospital (the Barnes House of Recovery) had voluntarily asked the committee not to give it any grant at present, as its income was so large they "did not want the help of this fund." Since Hospital Sunday was first inaugurated a sum of £146,438 has been raised thereby.

Owens College.

Old "Owens men" will hear with regret that Professor Greenwood, the principal, has, owing to declining health, been compelled to resign his office. For more than thirty years he has been one of the chief guiding and directing powers of the College through good report and evil report in its early struggles and during its later magnificently successful career. Dr. Greenwood has proved himself a capable and wise adviser and administrator. His place will not easily be filled. He retires with the respect and grateful good wishes of all old students of the College for a future of well-earned repose from work, the results of which must afford to Dr. Greenwood himself almost unalloyed satisfaction.—On Saturday evening next the College Union give their annual *soirée*, and unusual efforts are being made to render the meeting an enjoyable and interesting one; among other novelties it is rumoured that for the first time on record a dramatic representation is to be given within the College walls.

Health Matters in Salford.

Some stir has lately been made about the manner in which the Salford corporation treat their sewage at the sewage works. Salford, like many other large towns, finds that, after spending large sums of money, the so-called "chemical treatment" of sewage leaves much to be desired. Following the lead of Manchester, an attempt is to be made (not before it is wanted) to deal with some of the insanitary dwellings of the poor which exist in some of the slums of the borough. After much and prolonged delay, steps are now being taken in earnest to proceed with the erection of the new Fever Hospital. The old one in Cross-lane is still very full, owing to the continued prevalence of diphtheria and scarlet fever; the latter disease shows but little sign of abatement either in Manchester or Salford, more than 260 cases having occurred during the past month. The Fever Hospital at Monsall also is quite full, the last return showing nearly 300 patients in the wards, and since June 24th of this year there have been more than 1200 admissions into this hospital alone.

Dec. 11th.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

Newcastle.

AT the Royal Infirmary a resolution has been carried which can do the institution no good, while its propriety is very questionable. It is "that a monthly statement be placed on the table of the quantity of intoxicating liquor ordered, and by whom." Some time ago exception was taken to the quantity of soda water used, and aerated waters in general were objected to. I suppose some of the governors will not rest satisfied until "Whittle Dene" (as the pipe water is called in this district) is duly tabulated "how much" and "by whom." At a time when the governors are crying aloud for pecuniary support, this "cheeseparing" policy is scarcely to be commended, while I know it is offensive to some of the medical staff. If the patients get to think that anything ordered for their benefit by their medical attendant is given with a bad grace, it is certain to react in a way detrimental to the institution.—The Northumberland and Durham Miners' Permanent Relief Fund is probably one of the largest benefit societies in existence, and seems to be managed with much prudence. It was stated on the opening of their new premises in Newcastle on Saturday last that the membership now was just 100,000. They had distributed to widows and children £234,000, for permanent disablement £116,000, for minor accidents £117,000, and to aged miners for superannuation relief £213,000. Very large figures these, but there are still larger—viz., the total income since the beginning of the Society has been little short of £1,000,000. The management expenses were shown to be below 10 per cent. on the income of the Society—viz., £90,000 per annum.

"Pasteur's Life and Work."

This is the title of the last University free Saturday night lecture, and was delivered last Saturday in Newcastle to a large and appreciative audience by Mr. W. H. Hodgson, B.A. Mr. Hodgson's matter and delivery were excellent, and he did justice to the great French physiologist as a man of unrivalled ability, and one exhibiting the utmost devotion to science.

Newcastle-on-Tyne, Dec. 11th.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

EDINBURGH.

Edinburgh University Court.

AT the meeting of the University Court held on Monday the following matters of interest were discussed and arranged. Consideration of the proposed alterations by the Aberdeen University Court on Ordinance No. 16, as to the arrangement of the professional examinations for graduation in medicine at Aberdeen University, was resumed; and the reply of the Aberdeen Court to the observations of the Glasgow and Edinburgh Courts and the remarks of the Glasgow Court and a minute of Senatus relative to the reply was considered. The minute of Senatus was in favour of the proposed alteration. The Court remained of opinion that some of the proposals required further experience at the University of Edinburgh, in which they had been carried out, before it would be prudent to carry them further, and that the appointment of an Executive Universities Commission made it inopportune to proceed with the proposed alterations before Her Majesty in Council under the Act of 1858. The usual arrangements made for the appointment of additional examiners in Natural History and Clinical Surgery at the meeting on Monday, Jan. 20th, 1890, were approved of. The appointment of Dr. John Playfair to be one of the lecturers on the Diseases of Children, in succession to Dr. Underhill, whose term of office had expired, was endorsed. On consideration of a minute of Senatus, the Court approved of the continuance of the salaries of the secretaries and of the deans of faculties for the current session.

Edinburgh Health Lectures.

On Saturday evening Dr. Noel Paton delivered the fifth of the series of lectures to the Health Society on "Vegetarianism and the Use of Vegetables in Diet." He pointed out the manner in which the waste of the body is repaired, and then went pretty fully into the consideration of what kinds of foods were necessary to replace the waste and to produce the necessary energy. A comparison of animal and vegetable food stuffs, with their relative proportions of proteids, fats, and starches, was given; and then Dr. Paton, summing up, said that vegetarianism was possible to those who had a good set of teeth, a sound digestion, plenty of out-door exercise, and a knowledge of dietetics. Hence, vegetable diet was more to be recommended to the outdoor labourer than to the dweller in towns. Pulses were the best forms to use, and these, along with butter, lard, or vegetable oils, formed an excellent diet. The object to be kept in view should be to combine the vegetables so as to give the necessary food ingredients in their proper proportions. In closing, Dr. Paton said that, while he was no champion of exclusively vegetable diets, he could not but feel that, among the poorer classes especially, the use of vegetables in diet was sadly ignored. Money was needlessly squandered on flesh food, from the idea that it was strength-giving, while many of the cheaper vegetable foods were of equal value with the more expensive animal food stuffs.

Edinburgh Medical Missionary Society.

At the annual meeting of this Society, Professor A. R. Simpson presiding, a most interesting account of the work of the past year was presented. Much valuable work has been done at the Livingstone Memorial Training Institution and Dispensary. Patients had been visited at their own homes, midwifery and other cases had been attended, and no fewer than 10,089 patients had been seen. Since 1880 forty-four students had left the institution for the foreign mission fields. Six young men were received as students last year, making in all twenty-eight in connexion with the Society at the present time. Eleven men finish their studies during the year, and will be prepared to go forth as fully qualified medical missionaries. Owing to the growing success of the work there is need of more room and more money, both of which, the managers hope, will soon be forthcoming.

Royal College of Physicians of Edinburgh.

At the annual meeting of the College, held on the 5th inst., the following office-bearers were elected for the ensuing year:—President: Dr. Thomas Grainger Stewart. Vice-President: Dr. Robert Peel Ritchie. Council: Drs. G. W. Balfour, R. Peel Ritchie, D. J. Brakenridge, Batty Tuke, James O. Affleck, John Sibbald. Treasurer: Dr. Peter A. Young. Secretary: Dr. George Alexander Gibson. Librarian: Dr. George W. Balfour. Curator of Museum: Dr. Thomas A. G. Balfour. Curator of Laboratory of Research: Dr. John Batty Tuke. Registrar of Applicants for the Licence: Dr. George A. Gibson. Superintendent of Laboratory: Dr. German Sims Woodhead. Representative of the College in the General Medical Council: Dr. John Batty Tuke.

Edinburgh, Dec. 10th.

GLASGOW.

Election of University Assessors.

Under the Universities (Scotland) Act the General Council of each University, which is understood to represent specially the views and feelings of the graduates, is entitled to send three representatives to the University Court as recently reconstituted. In the case of Edinburgh this has been done without the trouble and expense of a contest; but in Glasgow it is otherwise, six candidates being before the electors. The result of this election will determine to a considerable extent the amount and the kind of reform which may be looked for in the University for a considerable time, as the Court has, at first at any rate, very important duties to perform; the interest taken in the contest therefore is keen, and the voting will be close. Two sets of candidates for the three seats have been proposed. By the organisation known as the University Club the claims of Dr. H. C. Cameron, Sir J. N. Cuthbertson, and Mr. David Hannay are being pressed on the attention of the constituency; while by the University Council Association the candidates favoured are Mr. M'Vary Campbell, Sheriff Guthrie, and Dr. D. C. M'Vail. The Club advocates university reform of a measured and well-considered kind, more especially reform within, and upon the lines of the existing university

organisation, and its candidates are pledged, though in a somewhat indefinite way, to support proposals for such changes. On the other hand, the Council Association, while it also advocates reform, does so "with a difference;" its views are more thorough-going, and its proposals more drastic, including such reforms as a fuller occupation of extra-mural teaching by affiliation of colleges and otherwise, the widening of the basis of the Arts curriculum and examination, the exclusion of teachers from any considerable share in the examination of their own students &c., and its candidates are distinctly pledged on these points. The show of hands at the meeting of Council called to elect the three assessors resulted as follows: the numbers were—for Dr. Cameron, 128; Sir J. N. Cuthbertson, 122; Mr. D. Hannay, 120; Sheriff Guthrie, 81; M'V. Campbell, 78; Dr. M'Vail, 66. Of course these figures give only a very rough indication of the probable result of the poll next week, as the meeting was comparatively a small one, while the constituency is large and widely scattered. Probably a majority of voters will refuse to be influenced entirely either by Club or by Association views, and will not vote for the candidates in sets, but will select from among the six those whom they think most worthy of honour. The Club was first in the field, and has in the main strong candidates; if it succeeds in carrying them, the senatorial party will have a powerful, perhaps even a preponderating voice in the decision of the Court. Negotiations, characterised by much astuteness on both sides, for a compromise and the avoidance of a contest, were engaged in between the two nominating bodies, but they came to nothing—fortunately perhaps, as the Council as a whole will now have an opportunity of giving its voice decisively on one side or the other on the reform question. The assessors appointed to the new University Court by the Senate of the University are Sheriff Berry, Professor Leishman, and Professor Stewart.

The Disturbance in Glasgow University.

Sir George Macleod is right in stating, in THE LANCET of last week, that this disturbance was greatly exaggerated and made the most of in the local newspapers. The paragraph which appeared in THE LANCET, however, was carefully prepared; the exact facts, so far as known to the writer, were stated, and sensational reports excluded. Your correspondent regrets that he should have fallen into any error in describing the treatment which Sir George Macleod experienced. The matter has been under the consideration of the Students' Representative Council, which has protested against the exclusion of students from graduation ceremonies, has expressed regret for the recent outbreak of violence, has offered to aid the Senate in future in maintaining order, and made the claim that complaints regarding disturbances among the students should be sent to it. The Senate sends to this a dignified and not unkind reply, acknowledging the above resolutions, expressing satisfaction on receiving the reports of the Council, and accepting cordially the proffered aid in keeping order on future occasions. The differences between students and Senate may now be said to be happily settled.

Glasgow, Dec. 12th.

ABERDEEN.

The University.

At a meeting of the Senatus held on Saturday, the 7th inst., Professors Hay, Pirie, and Stephenson were elected assessors to the University Court in addition to Professor Milligan, the present representative. An examination for the Public Health Diploma was held recently, when five candidates were successful. At the examination in July last there were eleven or thirteen candidates, but only three were successful in obtaining the diploma.

Should there be a Pay Hospital in Aberdeen?

In the *Free Press* of the 5th inst. there is a short article by Dr. Robert John Garden on the question of a pay hospital for Aberdeen. He divides those for whom a pay hospital is required into two classes—viz, first, those of limited means who could afford to pay but a moderate sum for their board and treatment, "poor paying patients," such as small farmers, clerks, shopmen, students, &c.; and secondly, those who have ample means, but who from various circumstances find it inconvenient to be treated at their places of residence; these could afford to pay well for hospital treatment. Dr. Garden shows that it is impossible to have pay wards in the new hospital being built, but has no hesitation in answering in the affirmative the question with which he heads his article, and he feels convinced that if a pay hospital were started on a broad footing, fair to all possible interests, it would not only prove a success, but be a boon both to the city of Aberdeen and to the north of Scotland.

Aberdeen, Dec. 10th.

DUBLIN.

(FROM OUR OWN CORRESPONDENT.)

Expenses of Medical Witnesses.

AT the Munster Assizes this week an application was made to Mr. Justice Murphy with reference to the expenses of medical men attending as witnesses—namely, that they should be allowed an amount beyond that granted by the Treasury, which was totally inadequate, on account of the long distances witnesses had to come, and the high prices charged for accommodation at Nenagh. Mr. Justice Murphy said he would be glad to make the order asked for in cases where it was manifest that medical gentlemen had been put to great inconvenience, but he could not interfere with the decision which the judges had arrived at. If, however, a representation were made to the Treasury, something satisfactory might be done. I understand that this matter was brought under the notice of the judges about a year since, when they decided that the rules laid down by the Treasury should be adhered to.

Death of Mr. Jameson Dwyer of Cork.

This gentleman, who held the responsible post of resident medical superintendent of the Cork District Lunatic Asylum, died last week. He had been ailing for the past two years from an affection of the stomach which ultimately proved to be of a malignant nature. Mr. Dwyer immediately after being qualified applied himself exclusively to the practice of lunacy, and was some time afterwards appointed assistant medical superintendent at the Castlebar, and afterwards at the Mullingar Asylums. He left the latter institution to take charge of the Cork Asylum when Dr. Eames died in 1886, having been appointed by Lord Aberdeen, who was then Lord-Lieutenant. Mr. Dwyer possessed considerable administrative abilities, and effected many important improvements in the Cork Asylum.

Notification of Infectious Diseases.

The Local Government Board have issued a notice to the several urban and rural sanitary authorities in Ireland to whose districts the Infectious Disease (Notification) Act, 1889, may extend. The Act provides that where an inmate of any building used for human habitation within a district to which the Act extends is suffering from an infectious disease to which the Act applies, then, if not a hospital, every medical practitioner in attendance shall send to the medical officer of health for the district a certificate stating the patient's name, age, the locality, and the nature of the disease, &c. In the case of a ship, tent, van, or shed, the name and description and the place situated must be given in the certificate prescribed for the purpose. The penalty for not forwarding the certificate is forty shillings. The Act applies to the following diseases—viz., small-pox, cholera, diphtheria, croup, erysipelas, scarlatina, and typhus, typhoid, continued, and relapsing fevers, also to puerperal fever, and any other infectious disease to which the Act has been applied by the sanitary authority.

The Right Hon. Viscount Monck has appointed Mr. Meldon, President of the College of Surgeons, to be a Deputy Lieutenant of the City of Dublin.

The many friends of Dr. Neville, who from delicate health was obliged to leave Dublin some time since, will be gratified to learn that he has now resumed practice.

Dublin, Dec. 10th.

PROPOSED INFECTIOUS DISEASES HOSPITAL AT TODMORDEN.—The late Mr. S. Fielden, of Centre Vale, Todmorden, had taken steps towards providing a hospital for infectious diseases at Sourhall for the whole of the Todmorden Union and the borough of Bacup. The plans are already in a forward condition.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

The Pasteur Institute.

THE Council of Administration of this institution met recently for the purpose of hearing the report of M. Pasteur on the work accomplished by the institution during the past year. The department for the treatment of the disease for which the institution was mainly established—viz., hydrophobia,—and which is under the joint direction of MM. Grancher, Chantemesse, and Charrin, has treated during the period embraced between Nov. 1st, 1888, and Nov. 1st, 1889, altogether 1830 persons, of whom eleven succumbed notwithstanding treatment. This gives a mortality of 0·6 per cent. Of the eleven, however, four died during the treatment, and these being subtracted, as M. Pasteur thinks they should be, from the statistics, the mortality is reduced to 0·3 per cent., a better result even than that obtained last year. M. Pasteur observes that the mortality amongst the persons certified by veterinary surgeons to have been bitten by animals proved to be suffering from rabies is the same as that amongst those bitten by animals whose hydrophobic condition was shown by subsequent inoculation experiments, and this, M. Pasteur adds, is satisfactory evidence that the certificates as to the condition of the animals are given after careful inquiry and diagnosis only. As of course your readers are aware, the treatment and cure of rabies are not the only objects pursued by the institution. The study of virulent and contagious maladies and the application to hygiene and the biological sciences of the discoveries made in regard to the microbe, are not less earnestly studied. During the past year to wit, several important contributions to these studies have been made by the staff, and by observers, such as MM. Duclaux, Roux, Chamberland and Metschnikoff. On a review of the work done, one sees the scientific activity prevailing in this celebrated institution—an institution which reflects such honour on French science and its illustrious founder, and of which every Frenchman may well be and is justly proud.

An Epidemic at the Louvre Warehouses.

A good deal of sensation and capital are being made by a certain portion of the daily press out of an epidemic the nature of which is not yet very clearly defined, but which appears to have spread with somewhat remarkable rapidity amongst the numerous staff of *employés* of the enormous—chiefly soft goods—warehouses situated opposite the Louvre Picture Gallery, and known as Les Grands Magasins du Louvre. The alarm, however, raised by the daily papers does not appear to be at all warranted so far, for although about 450 of the workers in the warehouse are reported to be suffering, there have been no fatal cases mentioned. The exact nature of the epidemic is, as I said, not yet made clearly out, but as to the rapidity with which it spread amongst the inmates there is no doubt. The symptoms, as so far announced, would seem to lead to the conclusion that one had to do with an outbreak of epidemic influenza, but whether this will be confirmed by subsequent investigation remains to be seen. An official inquiry was ordered by the Minister of the Interior, who appointed MM. Brouardel and Proust to carry it out. They visited the Louvre Warehouse to-day, and reported that the outbreak is one of mild influenza, for the maximum duration never appeared to exceed four days. The numbers absent from duty had increased daily from 120 (out of 3000 *employés*) on Nov. 26th to 670 on Dec. 10th. They could not arrive at a conclusion as to the origin of the epidemic, which they state is not of a kind to excite alarm. It must be remembered, in reading the popular accounts of this epidemic, that side by side with the epidemic itself there is another, which has spread with greater rapidity—viz., the epidemic of emotional alarm.

Paris, Dec. 10th.

PROPOSED SEWERAGE BOARD, CHERTSEY.—The necessary parliamentary notice has been published in reference to this new board. The scheme of sewerage proposed is on an extensive scale, and it is stated that the opinion has been expressed by those who have examined the plans prepared that it will be favourably received.

VIENNA.

(FROM OUR OWN CORRESPONDENT.)

The Influenza Epidemic.

LAST week some cases of influenza occurred at the General Hospital here. Physicians, nurses, and patients who were already under treatment in the hospital for a longer or shorter period on account of other maladies, were affected by this disease, which, although commencing with high fever, was not accompanied by any serious complications. The number of cases of influenza at the hospital reached nearly fifty, and some excitement ensued as it became difficult to keep the medical service at the hospital in order. According to communications made to me by some of the leading physicians practising in the town, single cases showing the character of influenza were also observed in private practice. As to the etiology of the disease, some physicians here have commenced to make bacteriological examinations, and within a short time the discovery of a bacillus or micrococcus to which the outbreak of the disease is due will, it is expected, be reported. On the other hand, the meteorological conditions prevailing now, as well as the differences between the temperature of the overheated rooms in the houses and the air outside, and the presence of sulphurous acid in the air, must be taken into consideration as etiological factors. Reports from Cracow and Lemberg (Galicia) on the outbreak of an influenza epidemic in those towns, especially among the soldiers, were received yesterday. It must be also noted that till now the epidemic has not made its appearance in small country villages, not even in Russia. The view of Professor Zdekauer of St. Petersburg, who is inclined to regard the Petersburg epidemic as a precursor to the spread of cholera, is contested by the Vienna authorities on epidemiology.

Actinomycosis in Vienna.

According to a communication made by Professor Albert no less than thirty-five cases of actinomycosis have been treated at his clinic since the year 1885; whilst this winter session, which commenced Oct. 1st, eight cases have already been under his treatment.

A New Micro-organism in Milk.

Dr. Adametz, assistant at the High School of Agriculture, has discovered a new micro-organism by whose action the milk becomes viscid; it is a micrococcus embedded in a mucilaginous substance.

Vienna, Dec. 8th.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AT an ordinary meeting of the Council of the above College, held on Thursday, the 12th inst., the minutes of the last meeting were read and confirmed.

A report from the General Purposes Committee on the fittings for the extension of the Examination Hall, and on the uses of the extension of that hall, was read and approved, subject to the approval of the Royal College of Physicians.

It was agreed that, as recommended by the Nomination Committee, the annual election of Examiners in Elementary Anatomy, Elementary Physiology, Anatomy, Physiology, and Midwifery for the diplomas of Fellow and Member respectively, do in future take place at the ordinary meeting of the Council in June on a report from this Committee to be presented at that meeting, and that the examiners in those subjects be appointed for six months, and be subject to re-election in June next.

Messrs. Langton and Pick were re-elected members of the Court of Examiners in Surgery, and Mr. Edmund Owen was elected to the vacancy caused by the resignation of Mr. Hulke. Mr. Langton was reappointed a member of the Court of Examiners in Dental Surgery, and Mr. Pick elected to the vacancy caused by the resignation of Mr. Hulke.

The best thanks of the Council were given to Mr. Marshall for his delivery of the Morton Lecture, and to Mr. Bryant for his delivery of the Bradshawe Lecture, and they were requested to publish the same.

The following gentlemen were elected examiners for the

ensuing six months, namely:—*First Examination*—Elementary Anatomy: Messrs. C. A. Ballance, A. Hensman, W. Arbuthnot Lane, C. Lockwood, and C. Stonham. Elementary Physiology: J. R. Bradford and W. G. Spencer. *Second Examination* — Anatomy: Messrs. W. Anderson, J. N. C. Davies Colley, F. H. Marsh, and G. D. Thane. Physiology: C. H. Golding Bird, V. D. Harris, and B. T. Lowne. *Third Examination*—Midwifery: W. Duncan, M.D., W. S. A. Griffith, M.B., P. Horrocks, M.D., and J. B. Potter, M.D. *First Examination for the Fellowship*—Anatomy: W. H. Bennett, W. B. Clarke, A. P. Gould, G. H. Makins, and F. Treves. Physiology: C. H. Golding-Bird, B. T. Lowne, D'Arcy Power, and G. F. Yeo.

A letter was read from Mr. John Marshall, President of the General Medical Council, reporting, as representative of the College, the proceeding of that Council at their late Session, and thanks were voted to Mr. Marshall for his efficient services.

A letter of Nov. 26th, 1889, was read from Mr. Arthur Milman, Registrar, forwarding, by direction of the Senate of the University of London, copies of the scheme approved by the Senate for the reconstitution of that University on the general lines indicated by the report of the University for London Commission, inquiring if this College will concur in the proposal that its President should be an *ex officio* member of Senate, and inviting any observations and suggestions upon the details of the scheme which this College may think fit to make.

A committee of delegates of the College was appointed to consider the same and report to the Council. The members of this committee are the President and Vice-Presidents, Mr. Savory, Mr. Power, Mr. Hulke, Sir W. Mac Cormac, Mr. Sibley, and Mr. Pick. A letter was also read from Dr. R. Quain, Chairman of the Pharmacopœia Committee of the General Medical Council, stating that it is the intention of the General Medical Council to publish an addendum to the British Pharmacopœia, 1885, and requesting the Council to assist the committee appointed for the purpose by forwarding to them a list of such new remedies as they may think it desirable to introduce into the addendum. This was referred to a committee consisting of Messrs. Lund, Hill, Sibley, and Howse.

A letter of the 28th ult. from Mr. J. Sebag Montefiore, was read, soliciting a contribution from the College to the funds of the Royal Sea-bathing Hospital at Margate. The Council was unable to accede to this request, as there are no funds at the disposal of the Council for that purpose.

Obituary.

WILLIAM EYRE BLENNERHASSETT ATTHILL.

THIS gentleman, the eldest son of the late Mr. Porter Atthill, formerly Attorney-General and later Chief Justice of St. Lucia, a nephew of Dr. Lombe Atthill, who died in St. Mary's Hospital on Nov. 21st in his forty-first year, was formerly a student at St. George's Hospital. Notwithstanding his good family connexions, he was early obliged to depend on his own efforts and resources, and so it was that in after-life he was one of those men who seem able to turn their hands with success to anything. When the Franco-German war broke out he was amongst the first to offer his services, and was the life and soul of the party which went out with Dr. Mayo, and which founded and was for many months connected with the Alice Hospital at Darmstadt. There it was that the writer of this notice first met him and formed a friendship with him which he highly valued. A series of papers which Mr. Atthill wrote at this time in the *Medical Times and Gazette*, entitled "The Autumn Tour of a Dresser," attracted some attention. Back from the war, he qualified himself for the M.R.C.S. and L.R.C.P. Lond. as soon as he could, and maintained himself both before and afterwards by acting as *locum tenens* or assistant. He thus gained so wide a familiarity with the routine of private practice that he was well prepared when, in 1873, soon after his marriage, a practice was offered him at Waterbeck, near Ecclefechan, in Dumfriesshire. There he worked hard for two years in a wild, cheerless, mountainous district, living in a two-roomed cottage without comforts of any kind. But his natural energy and resources stood him in such good stead that when he moved to Faversham he had some means in hand from the practice which he had made at Waterbeck. He was at Faversham for eleven years, and since that time he had had a large city practice which entailed an enormous amount of very trying work. Throughout it, it was painfully manifest to his friends that his health was failing, and that he was looking prematurely aged. The seeds of the disease to which he succumbed had indeed long been sown. From early boyhood he had been subject to hæmaturia, which in recent years had become more frequent, and was complicated by occasional retention. Then followed the inevitable cystitis with all its distressing consequences, and the loss of sleep told heavily upon him. From time to time during the past few years he had consulted Mr. Buckston Browne, who on Jan. 15th, 1888, washed out his bladder and detached a portion of so-called papilloma, confirming thereby the suspicion which had been entertained as to the cause of his symptoms. Suprapubic cystotomy was discussed but not then urged, and as this examination was followed by a cessation of the bleeding, and Mr. Atthill could not leave his work, it was for the time abandoned. The spring and summer of this year, however, brought a return in much worse degree of all his former symptoms, and it became urgently necessary on July 20th to do something for his relief, for retention was absolute, the bleeding was profuse, and he was suffering great pain. A large portion of growth was removed on that day by Mr. Buckston Browne from the trigone region of the bladder, but a hardness and thickening which were felt between the fingers in the rectum and the bladder revealed the real nature of the malady and the impossibility of getting the tumour completely away. The relief which followed this operation did not last long, and when the writer saw him in October after the holidays, he found him in such a pitiable state that he at once gave him a bed in St. Mary's, so that he might be where help was always at hand; and there until his death the house-surgeon, Mr. G. C. Davis, attended to him with the utmost devotion and self-denial. The epithelioma had now appeared at the suprapubic wound, and increased with such rapidity that the whole cavity of the bladder was soon blocked up. His sufferings were agonising, and were only partially relieved by frequent injections of morphine, but he bore them all with the greatest bravery, and no word of complaint was ever heard to pass his lips. Thus ended a life of much usefulness, which had been encompassed by many hardships. With better surroundings and opportunities, the deceased might have made a greater mark in the world, for he had exceptional abilities and was a shrewd sensible man. His life was one long struggle, made more difficult by the disease which he carried with him. That he had no faults it would be wrong to say; he himself would have been the last to wish that that should be said of him; but he was a thoroughly good fellow, an honourable and high-minded man, and he had qualities which very much endeared him to many besides the widow and children whom he has left.

ROBERT IRVINE,

DEPUTY INSPECTOR-GENERAL R.N. (RETIRED).

DEPUTY INSPECTOR-GENERAL IRVINE died at his residence, St. Margaret's, Twickenham, on Nov. 3rd, aged sixty-five, after an illness of a year and a half. The deceased officer had seen much and distinguished service during the thirty-two years he held Her Majesty's commission. His first appointment, in 1848, was to H.M. brig *Pilot*, on the China station. In 1852 he was appointed to the *Cumberland* (West India squadron), being afterwards present in the same ship at the bombardment of Bomarsund, when he formed one of the first landing party (Baltic medal). During the Crimean war he was attached to Therapia Hospital (Crimean medal and clasp, and Turkish medal). After the conclusion of peace he served in H.M.S. *Esk* on the China station, being present at the capture of Canton (Chinese medal, Canton clasp). His last appointment was to the *Castor* drill-ship of Naval Reserves, North Shields, from which he finally retired in August, 1880. Of a handsome and commanding appearance, coupled with a genial, kindly, and amiable disposition, he was universally liked, and it can be truthfully stated that he never made an enemy, either in or out of the service, and, but for his innate modesty, which prevented him from pressing his claims, he would no doubt have been more officially honoured.

Medical News.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—The following gentlemen, having passed the necessary examinations, were at a meeting of the Council on the 12th inst. admitted Fellows of the College:—

Perry, Francis F., L.R.C.P.Lond., Brookdale, Teddington; diploma dated Aug. 1st, 1876.
Morton, C. A., L.R.C.P.Lond., Zetland-road, Bristol; Nov. 17th, 1881.
Mortimer, J. D. E., L.S.A., Warwick-st., Earl's-court-rd.; Jan. 20th, 1882.
Swain, Jas., M.B.Lond, Royal Infirmary, Bristol; Nov. 14th, 1883.
Crowle, T. H. Rickard, Campden-hill-road; Jan. 24th, 1884.
Murray, R. W., L.R.C.P.Lond., Huskisson-st., L'pool; Ap. 26th, 1884.
M'Lachlan, John, M.B.Edin., Lothian-st., Edin.; July 24th, 1885.
Larkin, Fred. Chas., L.S.A., Bedford-st., Liverpool; Oct. 23rd, 1885.
Jones, A. M., M.B.Dur., Wellow Vicarage, Romsey; Oct. 30th, 1885.
Permewan, Wm., M.D.Lond., Vauxhall-rd., L'pool; July 22nd, 1886.
Pennell, G. H., L.R.C.P.Lond., Heavitree-pk., Exeter; Aug. 2nd, 1888.
Galloway, Jas., M.B.Aber., New-street, E. (Not a Member.)

Two candidates who have not yet attained the legal age (twenty-five years) will receive their diplomas at future meetings of the Council. Twenty-four candidates were referred.

The following gentleman having passed the necessary examination at a previous meeting of the Court of Examiners, and having attained the legal age (twenty-five years) was also admitted a Fellow of the College:—

Ashworth, Percy, L.R.C.P.Lond., Higher Crumpsall, Manchester; diploma dated Aug. 4th, 1887.

The following gentleman, having passed the necessary examination, was at the same meeting of the Council admitted a Member of the College:—

Gilpin, Frank, L.S.A., Charlton House, Pershore, near Worcester.

UNIVERSITY OF OXFORD.—At a congregation held on Dec. 5th the degree of M.D. was conferred on

Dan Astley Gresswell, Christ Church.

UNIVERSITY OF CAMBRIDGE.—At a congregation, held on Dec. 5th, the following degrees were conferred:—

Doctors of Medicine.—George Edward Anson, Trinity; Josias Ernest Viney, Downing.
Bachelor of Medicine.—Arthur Edward Kelsey, Trinity.
Bachelors of Surgery.—George Edward Anson, Arthur Edward Kelsey, Trinity.

UNIVERSITY OF DURHAM: FACULTY OF MEDICINE. At a Convocation held on Tuesday, Dec. 10th, the following were recommended for the degree of Doctor in Medicine for Practitioners of Fifteen Years' standing:—

Peter Gordon Bell, L.R.C.S., L.R.C.P. Edin.; Wm. Henry Causton, M.R.C.S., L.S.A.; Geo. William Joseph, M.R.C.S., L.S.A.; George Middlemiss, L.R.C.P. Edin., L.F.P.S. Glas.; Wm. Royston Pike, M.R.C.S., L.S.A.; George Grayson Stopford Taylor, M.R.C.S., L.K.Q.C.P. Irel.; Wesley Hayes Thompson, L.R.C.P., L.R.C.S. Ed.; Eugene John Tulk-Hart, M.R.C.S., L.S.A.

The following were recommended for the degree of M.D.:—

Howard Albert Bredin, M.B., M.R.C.S., L.S.A.; Andrew Seymour Brewis, M.B., B.S., M.R.C.S., L.S.A.; George Gautby, M.B., B.S.; Evan Lewis Hickey, M.B., M.R.C.S., L.S.A.; Thos. Edward Honey, M.B., M.R.C.S., L.R.C.P. Lond.; Samuel Lodge, M.B., B.S.; John Edward Nihill, M.B., M.R.C.S., L.R.C.P. Lond.; John Edward Panton, M.B., M.R.C.S.; Leonard Raby, M.B., M.R.C.S., L.S.A.; Alfred Ernest Richardson, M.B., M.R.C.S.; Leonard Wilde, M.B., M.R.C.S., L.R.C.P., L.S.A.

The following were recommended for the degree of Bachelor in Medicine (M.B.):—

Second Class Honours.—Thomas Wykes Gibbard, M.R.C.S., L.S.A., King's College Hospital, London; Raymond Henry Shaw and James Arnott, College of Medicine, Newcastle-on-Tyne.
Pass List.—Andrew Paige Arnold, College of Medicine, Newcastle-on-Tyne; Wm. John Burleigh-Robinson, London Hospital; Burdon Cox, College of Medicine, Newcastle-on-Tyne; George Blackford Silver Darter, St. Thomas's Hospital; Ebenezer William Diver, University College Hospital; Wm. Alfred Hatton, London Hospital; Robert Guthrie Poole Lansdown, Guy's Hospital; Albert Edward Martin, London Hospital; Wm. Edwin Peacock, College of Medicine, Newcastle-on-Tyne; Chas. Wm. Edward Toller, M.R.C.S., L.R.C.P., St. Bartholomew's Hospital; Avery Clough Waters, M.R.C.S., L.S.A., and Robert Jas. Williams, London Hospital.

The following were recommended for the degree of Bachelor in Surgery (B.S.):—

Andrew Paige Arnold and James Arnott, College of Medicine, Newcastle-on-Tyne; George Blackford Silver Darter, St. Thomas's Hospital; Norman Faichnie, M.B., University College Hospital; Chas. Maurice Hardy, M.B., College of Medicine, Newcastle-on-Tyne; Robert Guthrie Poole Lansdown, Guy's Hospital; William Edwin Peacock and Raymond Henry Shaw, College of Medicine, Newcastle-on-Tyne; Avery Clough Waters, M.R.C.S., L.S.A., London Hospital; Thomas Watts, M.B., Owens College, Manchester.

UNIVERSITY OF EDINBURGH.—The following gentlemen have received the degrees of M.B. and C.M.:—

Beilby, J. H., Edinburgh.
Coles, A. C., Bournemouth.
Crawford, W. T., M.A., Worksop.
Crossley, F. E., Harle Syke, near Burnley.
Davies, Rhys, Llanwrtyd Wells, Breconshire.
Dyer, E. E., Bath.
Edwards, A. S., Queenstown, Co. Cork.
Fitzgerald, Jas., Edinburgh.
Forsyth, Ebenezer, Edinburgh.
Frere, A. H., Wickham Market.
Gillespie, S.A. D., Castle Douglas.
Glaeser, E. B., Worcester, South Africa.
Hallen, A. E. H. C., Alloa, N.B.
Hallen, A. H., Stratfd.-on-Avon.
Harvey, James, Edinburgh.
Hewat, M. L., Cape Town, Cape Colony.
Howatson, C. W., Portobello.
Jameson, Hugh, Edinburgh.
Lanyon, G. E., Falmouth.
Lockhart, F. A. L., St. John, N. Brunswick.
Lyle, F. W., Edinburgh.
MacBean, D. F., Islay.
Macdonald, A. H. W., M.A., Edinburgh.
Mackay, Henry, Crouch End, London, N.
Macknight, C. C., Edinburgh.
McNidder, Jas., Crail, Fife.
Mill, G. S., Arbroath.
Murray, C. D., Kirbymoorside.
Munn, J. Gordon, Edinburgh.
Paterson, Walter, Edinburgh.
Penfold, E. A., Pembroke Dock.
Pike, Stewart, Edinburgh.
Platt, A. F. R., Henry VIII. Gate, Windsor.
Poole, T. D., Poulton-le-Fylde.
Robertson, J. H., Edinburgh.
Sakir, H. C. N., Mauritius.
Silver, L. M., Edinburgh.
Spencer, Jas., Burntisland.
Stansfield, T. E. K., Todmorden.
Sylva, J. F. de, Edinburgh.
Taylor, J. A., Edinburgh.
Taylor, Mowbray, Earl's Court-road, London.
Thyne, George, Edinburgh.
Underhill, T. H., West Bromwich.
Wilcox, A. W., Stockton-on-Tees.

THE VACCINATION COMMISSION.—The Royal Commission on the Vaccination Acts resumed its sittings on Wednesday, Lord Herschell presiding. Dr. Creighton was under examination throughout the day.

WIGAN INFIRMARY.—Mr. James Henry Johnson, of the Abram Coal Company, has generously offered to build a children's wing to this infirmary, at a cost of £2000. The offer has been accepted.

MEDICAL MAGISTRATE.—Matthew James Turnbull, M.D., F.R.C.S. Edin., of Tweed View, Coldstream, Berwickshire, has been put upon the Commission of the Peace for that county.

EQUINE LARYNGOSCOPY.—Professor Polansky and Dr. Schindelka, of the Vienna Veterinary School, have constructed a laryngoscope for horses, by means of which active treatment in cases of glanders can be carried out.

THE PUBLIC LIBRARY AT WANDSWORTH.—Dr. Longstaff, who gave a reading-room at a cost of £2000 to the Wandsworth Public Library, has now offered to subscribe £2000 towards the debt remaining upon the library buildings, provided a similar sum be raised by the public before the end of March.

RABIES.—The number of dogs in England officially reported during the week ending Nov. 23rd as affected with rabies was four against eight in the previous week. Of these three were killed and one died. The distribution was as follows;—Kent, London, Surrey, York (West Riding), one each. The number of dogs affected during the week ending Nov. 30th was three, all of which were killed. Of these two belonged to Lancaster and one to London.

ANOTHER DEATH BY ELECTRICITY.—Another workman is reported to have been killed at New York whilst examining overhead lighting wires. An unprotected wire came in contact with the unfortunate man's body, and he was instantly killed. His dead body hung suspended from the wires for some time in the sight of a crowd of people. The victim's forearm and neck were literally roasted, and a portion of his clothing was burned.

A ST. JOHN AMBULANCE ASSOCIATION FOR PARIS. At a meeting held last Sunday at 32, Avenue des Champs Elysées, the residence of Dr. Douglas Hogg, for the purpose of forming a centre for Paris in connexion with the St. John Ambulance Association, an influential local committee was formed, with the Earl of Lytton as president, Dr. Douglas Hogg chairman, and Dr. Barnard hon. secretary. The interest displayed in the classes held by Dr. Barnard this year for the first time in Paris augurs well for the success of this very useful movement, and it is confidently expected that all the English members of the medical profession practising in Paris will shortly be enrolled on the medical staff of the centre. A special feature of the scheme will be the formation of an ambulance corps, the services of which will be available in the event of an outbreak of war.

A SANITARY ASSOCIATION AT CHICHESTER.—At a well-attended public meeting held in St. Martin's Hall last week, it was unanimously resolved to form a Sanitary Association for the purpose of spreading a knowledge of sanitation, and to take from time to time such steps as may seem necessary to promote the sanitary welfare of the city. The chairman, vice-presidents, and honorary secretaries were elected, and a committee of fourteen ratepayers chosen.

LITERARY INTELLIGENCE.—The Chilian Government, having resolved to undertake waterworks on a large scale, have commissioned Señores A. E. Salazar and Carlos Newman, of the Laboratory of the Naval School at Valparaiso, to investigate the water systems of Europe. Their report, together with a chapter on the bacteria of water, contributed by Dr. Rafael Blanchard, Secretary of the Zoological Society of France, is about to be issued by Messrs. Burns & Oates.—Professor Crookshank has presented a copy of his work on the "History and Pathology of Vaccination" to each of the Royal Commissioners.

SANITARY ASSURANCE ASSOCIATION, LONDON.—The President, Sir Joseph Fayrer, occupied the chair at the ordinary meeting of the Council held on Monday last. Arrangements were made for a series of lectures during January and February next, at the College of State Medicine, Great Russell-street. The series will include the following: Mr. H. Rutherford, on "House Sanitation from a Householder's Point of View;" Professor T. Rogers Smith, on "Household Warming and Ventilation;" and Mr. Mark H. Judge, on "The Sanitary Registration of Buildings Bill." Both men and women are invited to these lectures. Particulars can be had on application to the secretary, at the offices, 5, Argyll-place, W.

BEQUESTS AND DONATIONS TO HOSPITALS.—The Treasurer of the Royal Infirmary of Liverpool has received a donation of £500 from the late Mr. T. D. Hornby, given in accordance with his wishes by his executors.—The late Mr. C. Allcock, of Clapham Park, bequeathed by his will £1000 to the Birmingham General Hospital on the death of his wife.—The Duke of Westminster has given £500 to the Chester Infirmary, being part of the proceeds of the shilling tickets of admission sold during the past year for inspecting Eaton Hall.—Sir Benjamin Samuel Phillips, late of Grosvenor-street, London, left by his will £100 each to the London Hospital, the Royal Hospital for Incurables, Sussex County Hospital, the Farringdon Dispensary, and the Metropolitan Hospital.

BOOKS ETC. RECEIVED.

ALLEN, W. H., & Co., Waterloo-place, London, S.W.
"Why we Suffer," and other Essays. By Henry Hayman, D.D., 1890. pp. 464.

BLACK, ADAM & CHARLES, Edinburgh.
The Collected Writings of Thomas De Quincey. New and enlarged Edition. By David Masson. Vol. II. Autobiography and Literary Reminiscences. 1889. pp. 454.

BLACKIE & SONS, Old Bailey, London.
Laugh and Learn: the Easiest Book of Nursery Lessons and Nursery Games. By Jennett Humphreys. Illustrated. 1890. pp. 256.
Blackie's Modern Cyclopædia of Universal Information. With Illustrations and Maps. Edited by C. Annandale, M.A., LL.D. Vol. IV. Fir—Ilo. 1890. pp. 512.

BLACKWOOD, W., & SONS, Edinburgh and London.
Master of his Fate. By J. Maclaren Cobban. 1890. pp. 247.

CLARKE, ROBT., & Co., Cincinnati.
Medicine in the Middle Ages. By Dr. Edmond Dupouy. Translated by T. C. Minor, M.D. 1889. pp. 99.
The Evil that has been said of Doctors: Extracts from Early Writers. By Dr. S. J. Witkoski. Translated, with Annotations, by T. C. Minor, M.D. 1889. pp. 136.

CHURCHILL, J. & A., New Burlington-street, London, W.
Student's Guide Series. Pathological Anatomy of Diseases, arranged according to the Nomenclature of Diseases of the Royal College of Physicians of London. By Norman Moore, M.D. 1889. pp. 416.
The Treatment of Internal Derangements of the Knee-joint by Operation. By H. W. Allingham, F.R.C.S. 1889. pp. 165.
Clinical Lectures on the Diseases of Women, delivered in St. Bartholomew's Hospital. By J. M. Duncan, A.M., M.D. Fourth Edition. 1889. pp. 539.
Clinical Lectures on some Obscure Diseases of the Abdomen, delivered at the London Hospital. By Samuel Fenwick, M.D. 1889. pp. 252.
A Practical Treatise on Disease in Children. By Eustace Smith, M.D. Second Edition. 1889. pp. 895.
A Manual of Nursing, Medical and Surgical. By C. J. Cullingworth, M.D. Third Edition, revised. 1889. pp. 190. Price 2s. 6d.

DAVIS, F. A., London and Philadelphia.
Essay on Medical Pneumatology: a Physiological, Clinical, and Therapeutic Investigation of the Gases. By J. N. Demarquay. Translated by S. S. Wallian, A.M., M.D. Illustrated. 1889. pp. 300.
A Treatise on Materia Medica, Pharmacology, and Therapeutics. By J. V. Shoemaker, M.D., and J. Aulde, M.D. In Two Volumes. Vol. I. Devoted to Pharmacy, General Pharmacology and Therapeutics, and Remedial Agents not properly classed with Drugs. 1889. pp. 353.

DOIN, OCTAVE, Paris; BAILLIÈRE, TINDALL, & COX, London.
Traité Pratique d'Accouchements. Par le Dr. A. Auvard. Avec 534 Figures dans le Texte. 1890. pp. 787.

KEGAN PAUL, TRENCH, & Co., Paternoster-square, London.
Physiology of Bodily Exercise. By Fernand Lagrange, M.D. 1889. pp. 395, price 5s.

LONGMANS, GREEN, & Co., Paternoster-row, London.
The Charities Register and Digest. With an Introduction by C. S. Loch, Secretary of the Charity Organisation Society, London. Third Edition. 1890. pp. 976.

LEWIS, H. K., Gower-street, London, W.C.
Chronic Bronchitis and its Treatment. A Clinical Study. By Wm. Murrell, M.D., F.R.C.P. 1889. pp. 176.
History and Pathology of Vaccination. Vol. I. A Critical Inquiry. By E. M. Crookshank, M.B. Vol. II.: Selected Essays. Edited by E. M. Crookshank. 1889. pp. 466 and 610.

MAY, E. H., Fleet-street, London, E.C.
Profitable Fruit-growing for Cottagers and Small Holders of Land. By John Wright, F.R.H.S. Written for the Worshipful Company of Fruiterers. 1889. pp. 120.

PUBLISHED BY THE LEWIS MEMORIAL COMMITTEE, London.
In Memoriam. Physiological and Pathological Researches; being a reprint of the principal Scientific Writings of the late T. R. Lewis, M.B., F.R.S. (Elect), Surgeon-Major Army Medical Staff, Assistant Professor of Pathology in the Army Medical School, &c. Arranged and edited by Sir W. Aitken, M.D., G. E. Dobson, and A. E. Brown, B.Sc. 1888. pp. 732.

PUTNAM'S (G. P.) SONS, New York and London.
An Experimental Study in the Domain of Hypnotism. By Dr. R. von Krafft-ebing. Translated from the German by C. G Chaddock, M.D. 1889. pp. 129.

SIMPKIN & MARSHALL, Hamilton; KENT & Co., Limited, London.
Revived Guild Action; with a History of the Movement for the Registration of Plumbers. By Geo. Shaw. Second Edition. 1889. pp. 128.

RELFE BROTHERS, Charterhouse Buildings, Aldersgate-street, London.
Modern Thought and Modern Thinkers. Explanatory Sketches. By Jos. F. Charles. 1890. pp. 136.

SWAN SONNENSCHEIN & Co., Paternoster-square, London.
The Drink Question: its Social and Medical Aspects. By Dr. Kate Mitchell. pp. 254.

SCHOTTLAENDER, S., Breslau.
Atlas der Gerichtlichen Medicin. Von Dr. Adolf Lesser. Zweite Abtheilung. Erste Lieferung. Drei Colorirte Tafeln mit Erläutern dem Text. 1890. pp. 40.

THE HUB PUBLISHING COMPANY OF NEW YORK, Gold-st., New York.
Prize Essay on the Suspension of Carriages. By Wm. Philipson, Newcastle-on-Tyne. Revised Editton, with Plates. 1889. pp. 61.

THE NEW SYDENHAM SOCIETY, London.
The New Sydenham Society's Lexicon of Medicine and the Allied Sciences. (Based on Mayne's Lexicon.) By H. Power, M.B., and L. Sedgwick, M.D. Sixteenth Part. Lin—Mas. 1889.

Index-Medicus: Authors and Subjects, Vol. XI., No. 10, October, 1889 (Trübner & Co., and Lewis, London).—La Mission du Dr. Sternberg au Brésil: Réfutation du Rapport publié par ce Médecin sur la Fièvre Jaune dans le *Medical News*, de Philadelphie, le 28 Avril, 1887; par le Dr. Domingos Freire (Pinheiro & Co., Rio Janeiro, 1889).—Réfutation des Recherches sur la Fièvre Jaune faites par M. P. Gibier à la Havane; par le Dr. Domingos Freire (Pinheiro & Co., Rio Janeiro, 1888).—Sur la Toxicité des Eaux Météoriques (Note présentée à l'Académie des Sciences de Paris); par le Dr. Domingos Freire (Pinheiro & Co., Rio Janeiro, 1889).—A Handy Book on the Investment of Trust-Funds, under the new Law, with the Trust Investment Act, 1889; by R. Denny Urlin, Barrister-at-Law (E. Wilson & Co., London, 1889), price 1s.—Die Grundlagen der Bakteriologie; von A. P. Fokker (F. C. W. Vogel, Leipzig, 1889).—On the Pathology and Treatment of Diphtheria; by E. May, M.D. Heidelb., M.R.C.P. Lond. (J. & A. Churchill, London, 1889), price 1s.—Orkney, past and present; its Races, Relics, and Resources; by J. F. Palmer, L.R.C.P. Lond. (Cousins & Co., Strand, London, 1889), price 1s.—Arbeiten aus der ersten medicinischen klinik zu Berlin; von Dr. E. Leyden, 1 October, 1888, bis October, 1889 (August Hirschwald, Berlin, 1890).—Medical Communications of the Massachusetts Medical Society, Vol. XIV., No. 3, 1889 (D. Clapp & Son, Boston, 1889).—Madeira and the Canary Islands; a complete Guide for the use of Invalids and Tourists; by A. Samler Brown (Sampson Low, Marston, Searle, & Rivington, London, 1889), price 2s. 6d.—Neue Studien über Syphilide; von Dr. P. Tommasoli und Dr. P. G. Unna (Leopold Voss, Hamburg und Leipzig, 1890).—De la Chorée Chronique; par Dr. E. Huet (Bureau du *Progrès Médical*, Paris, 1888-1889).—Guide Médical à l'Exposition Universelle Internationale de 1889 à

Paris; par Marcel Baudouin; Seconde Fascicule. Anatomie, Thérapeutique, Pharmacologie, Microbiologie, Hygiène, Assistance Publique; avec Figures dans le Texte (Bureau du *Progrès Médical*, Paris, 1889).—Index Bibliographicus Syphilidologiæ; bearbeitet von Dr. K. Szadek; erster Jahrgang, die Litteratur des Jahres, 1886; zweiter Jahrgang, 1887; dritter Jahrgang, 1888 (Leopold Voss, Hamburg und Leipzig, 1888 and 1889).—Le Dragon Rouge, a short Story, by Francis Vacher (Griffith, Farran, Okeden, & Welsh, London and Sydney, 1889), price 2*s.* 6*d.*—De l'Action des Climats Maritimes dans les Affections Tuberculeuses; par le Dr. G. Hameau (Octave Doin, Paris, 1890).—On the Ventilation of Schools; a Lecture delivered before the College of State Medicine, May, 1889; by Sir H. E. Roscoe, M.P., F.R.S. (Danks and Co., Soho, London, 1889), price 1*s.* 6*d.*—Souvenir of the Dead Heart, by Watts Phillips, presented at the Lyceum Theatre by Henry Irving; illustrated (Cassell & Co., Limited, London, 1889), price 1*s.*—Magazines for December: Wit and Wisdom, Good Words (with Christmas Number, "A Cure of Souls"), Sunday Magazine (Isbister), (with Christmas Number, "A Girl of the People," by T. L. Meade), Girl's Own Paper (with Christmas Number, "Christmas Cherries"), Scribner's Magazine, The Publishers' Catalogue (Sampson Low & Co.) Sunday at Home, Gardener's Magazine, Scribner's, Blackwood's Edinburgh Magazine, Boy's Own Paper.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column are invited to forward it to THE LANCET Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.

BARFORD, A. M., M.R.C.S., L.R.C.P.Lond., Senior House Surgeon, Liverpool Northern Hospital, has been appointed Medical Officer to Bracknell Union and District, Berks, vice Thos. Croft, resigned.

BROWN, PHILIP, M.D.Aber., L.S.A.Lond., has been reappointed Medical Officer to the Blaydon and Ryton Union Districts.

CAUDWELL, HENRY, L.R.C.P., L.R.C.S. & L.M.Edin., has been appointed Medical Officer to the Woodstock Union Workhouse, and Medical Officer and Vaccinator to the No. 1 District of Woodstock Union, vice A. H. Mair, M.B., C.M., resigned.

EDWARDS, H. N., M.R.C.S., L.R.C.P., has been appointed Assistant House Surgeon to the Scarborough Hospital, vice S. T. Williamson, M.B., C.M. Edin., resigned.

EVANS, OWEN, M.R.C.S., L.S.A., has been appointed Medical Officer to the Bettwyscoed and Trefew District, Llanrwst Union.

JONES, ROBERT, M.R.C.S., has been appointed Honorary Surgeon to the Royal Southern Hospital, Liverpool.

JOSCELYNE, ARTHUR E., M.R.C.S., L.R.C.P. & L.S.A., has been appointed House Surgeon to the Oxford Eye Hospital.

MARSHALL, C. F., M.B., M.R.C.S., L.S.A., has been appointed Junior House Surgeon to the North-Eastern Hospital for Children, Hackney-road, vice J. H. Brock, M.B., M.R.C.S., resigned.

SMART, WILLIAM PECHEY, M.R.C.S., L.R.C.P.Lond., has been appointed Medical Officer of Health to the Hoxne Rural Sanitary Authority. Also District Medical Officer and Public Vaccinator to the Fressingfield and Laxfield Districts.

SPOWART, W. R., L.R.C.S.Irel., has been reappointed Medical Officer to the Eighth District of the Norwich Union.

STACY, J. H., L.R.C.P., L.R.C.S.Edin., has been reappointed Medical Officer to the Sixth District of the Norwich Union.

WEBB, HELEN, M.B. Lond., L.S.A., late Clinical Assistant at the Eastern Hospitals, Homerton, has been appointed Assistant Medical Officer.

WOODHOUSE, WILLIAM, M.R.C.S., L.S.A., has been reappointed Medical Officer to the First District of the Norwich Union.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement.

BLACKBURN AND EAST LANCASHIRE INFIRMARY, Blackburn.—Junior House Surgeon. Salary £50 per annum, with board, washing, and lodging.

CHELMSFORD UNION, Chelmsford.—Medical Officer, including the office of Public Vaccinator, for the Eighth District of this Union. Salary £140 per annum (which includes all medicines and appliances), together with the extra fees allowed by the Orders of the Local Government Board, and a sum of 12*s.* 6*d.* for each Midwifery case. The Vaccination Fees are 2*s.* 6*d.* at the surgery or within a mile from the Vaccinator's residence; 3*s.* up to two miles; and 4*s.* over that distance.

CHELSEA HOSPITAL FOR WOMEN, Fulham-road, S.W.—Assistant Physician. The office is honorary.

CHELTENHAM GENERAL HOSPITAL.—House Surgeon. Salary £80 per annum, with board and apartments.

DERBYSHIRE GENERAL INFIRMARY.—Resident Assistant House Surgeon, for six months. No salary, but a bonus of £10 is given.

DONCASTER GENERAL INFIRMARY AND DISPENSARY.—House Surgeon. Salary £100 per annum, with board and residence in the house.

EAST LONDON HOSPITAL FOR CHILDREN, SHADWELL, E.—House Surgeoncy. No salary, but board and lodging provided.

GENERAL HOSPITAL, BIRMINGHAM.—Two Assistant House Surgeons, for six months. No salaries, but residence, board, and washing will be provided.

GENERAL INFIRMARY, LEEDS.—Resident Ophthalmic Officer, for six months. Board &c. will be provided, and an honorarium of £50 given at the expiration of the six months, if the officer's conduct is satisfactory.

GENERAL INFIRMARY, Northampton.—House Surgeon. Salary £125 per annum, with furnished apartments, board, attendance, and washing.

GREAT NORTHERN CENTRAL HOSPITAL, Holloway-road, N.—Surgeon to the Out-patients of this hospital.

HOSPITAL FOR SICK CHILDREN, GREAT ORMOND-STREET, LONDON, W.C.—Surgical Registrar for one year. Honorarium of £40 at the end of the term.

LIVERPOOL NORTHERN HOSPITAL.—House Surgeon and Assistant House Surgeon. Salaries £100 and £70 per annum respectively, with residence and maintenance in the house.

MANCHESTER ROYAL INFIRMARY (MONSALL FEVER HOSPITAL).—Assistant Medical Officer at Monsall Fever Hospital, for twelve months. Salary £100 per annum, with board and residence.

MERCER'S HOSPITAL, Mercer-street, Dublin.—Physician.

MIDDLESEX HOSPITAL, W.—Pathologist and Curator of the Museum.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William-street, West Strand, London.—Clinical Assistants for six months.

UNIVERSITY OF EDINBURGH.—Additional Examiner in each of the subjects of Natural History and Clinical Surgery for the next period of office. The salary is £75 a year, with an allowance of £10 a year for travelling and other expenses in the case of examiners not resident in Edinburgh or the immediate neighbourhood.

VICTORIA HOSPITAL, BURNLEY.—Resident Medical Officer, Salary £80 per annum.

VICTORIA HOSPITAL FOR SICK CHILDREN, Queen's-road, Chelsea, S.W.—House Physician. Honorarium of £50 per annum, with board and lodging in the hospital. Also House Surgeon. Honorarium of £50 per annum, with board and lodging in the hospital.

WEST LONDON HOSPITAL, Hammersmith-road, W.—House Physician, and a House Surgeon, for six months. Board and lodging are provided.

WOLVERHAMPTON AND STAFFORDSHIRE GENERAL HOSPITAL.—Two Honorary Gynæcologists.

YORK DISPENSARY.—Resident Medical Officer. Salary £130 a year, with furnished apartments, coals, and gas.

Births, Marriages, and Deaths.

BIRTHS.

BOSWELL.—On Dec. 2nd, at Faversham, Kent, the wife of J. Irvine Boswell, M.D., of a son.

EDGAR.—On the 8th inst., at Settle, the wife of James W. Edgar, M.D., of a daughter, prematurely.

FINLAY.—On Dec. 5th, at Lower Berkeley-street, Portman-square, W., the wife of David W. Finlay, M.D., F.R.C.P., of a daughter.

JARDINE.—On Dec. 7th, at Lichfield-gardens, Richmond, Surrey, the wife of James Jardine, M.B., of a daughter.

PADBURY.—On Nov. 28th, at Harwood, Ansty, Salisbury, the wife of G. J. Padbury, M.B. Lond., of a daughter.

WALKER.—On Dec. 5th, at Ightham-place, Kent, the wife of Ernest G. A. Walker, M.R.C.S., of a son.

MARRIAGES.

BOWES—THORNBURY.—On Dec. 7th, at St. Jude's Church, Gray's-inn-road, by the Rev. W. H. Bond, M.A. (uncle of the bride), assisted by the Rev. E. H. Kempson, M.A., Charles Kessick Bowes, M.B. Oxon, second son of John Bowes, of Herne Bay, to Alice Maud, younger daughter of the late W. H. Thornbury, and granddaughter of the late Lieut.-Colonel Thornbury, and of the late Henry Collins, Khandalla, St. Bees.

CLAPP—HOCKEN.—On Dec. 7th, at St. Michael's, Wood-green, N., by the Rev. W. J. Clapp, Curate of Sidford, Devon, brother of the bridegroom, assisted by the Rev. J. Thomas, Vicar of the parish, and the Rev. H. P. Kelly, Vicar of Christchurch, Hoxton, N., George Tucker Clapp, M.B. Cantab., of 14, West Southernhay, Exeter, second son of the late William Clapp, of Exeter, surgeon, to Emma Frances, second daughter of Charles Edward Hocken, M.D., of Cleveland House, Wood-green.

GRENFELL—BETTELEY.—On Dec. 7th, at St. James's, Gunnersbury, by the Rev N. Whitfield, Henry Osborne Grenfell, surgeon, Southend, Essex, to Florence Elizabeth, only daughter of the late William Betteley.

MCNALLY—COKE.—On Nov. 5th, at St. George's Cathedral, Madras, by the Venble. Archdeacon Brown, Surgeon-Major Christopher J. McNally, M.D., son of the late C. McNally, Esq., solicitor, of Dublin, to Hester Marion, daughter of W. S. Coke, Esq., D.L., of Brookhill Hall, Derbyshire.

DEATHS.

BALFOUR.—On Dec. 8th, at Gloucester-terrace, Hyde-park, Surgeon-General Edward Green Balfour, late of the Madras Medical Department, aged 76.

SKELTON.—On Dec. 9th, suddenly, at Lancaster-road, Notting-hill, W. James Marshall Skelton, M.A., M.D., of Trin. Coll., Dublin, aged 47.

SWETE.—On Dec. 1st, at Fort Royal, Worcester, from illness contracted in active service in Upper Burmah, John Crawford Swete (Lieutenant Madras Staff Corps, Wing Officer and Adjutant 2nd Infantry, Hyderabad Contingent), eldest son of Horace Swete, M.D., aged 30.

WYNNE.—On Dec. 5th, at West-green, Tottenham, Charles William Richard Wynne, M.D., aged 33.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, December 12th, 1889.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb.	Solar Radiation in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
Dec. 6	30·61	N.E.	38	37	..	40	37	·04	Overcast
,, 7	30·11	S.W.	34	33	..	38	33	·02	Snowing
,, 8	30·27	W.	35	35	.	47	34	·25	Overcast
,, 9	29·89	S.W.	47	46	55	52	35	·15	Overcast
,, 10	29·45	S.W.	47	46	53	50	46	..	Cloudy
,, 11	29·43	N.W.	34	34	51	42	33	·01	Hazy
,, 12	30·06	N.W.	30	..	50	40	29	..	Foggy

Notes, Short Comments, & Answers to Correspondents.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

All communications relating to the editorial business of the journal must be addressed "To the Editors."

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed to the Sub-Editor.

Letters relating to the publication, sale, and advertising departments of THE LANCET to be addressed "to the Publisher."

We cannot undertake to return MSS. not used.

ATROPINE IN PARALYSIS AGITANS.

J. O'B.—According to Moretti of Rome atropine has succeeded in paralysis agitans when every other therapeutic agent has failed. In a memoir lately read before the Lancisi Society, Dr. Moretti, among other cases, cited that of the distinguished painter, Vertunni, who for years had to abandon his profession owing to the advances of the disease, which, after paralysing both legs and arms, threatened him with asphyxia, but who by the exhibition of atropine regained all his physical powers, and was able to produce pictures in his best manner.

U. R. A.—The disease is undoubtedly cysticercus cellulosæ. The carcase is not unfit for food; and even if the flesh contain the parasite, thorough cooking would surely destroy it.

THE letter of *Mr. Wilkes* (Salisbury) is unavoidably held over until next week, when it will receive attention.

J. G.—The best-known work is that by Dr. Maclachlan (1863), but it is hardly suitable for a lay reader.

M.D.—1. No.—2. The person calling in the medical attendant is liable for the fee.

UNQUALIFIED ASSISTANTS.

To the Editors of THE LANCET.

SIRS,—In a letter published in THE LANCET of NOV. 16th from a correspondent signing himself "An Apprentice of 1846," reference is made to a state of things which demands attention from the "powers that be" at least as much as does the question of the extension of the medical curriculum to five years. This is the excessively free employment of unqualified men as assistants, in- and out-door. Desirable as it undoubtedly is, to quote the words recently used by the President of the Royal College of Surgeons, to "protect the profession against the entrance of imperfectly educated men," it is surely at least equally desirable to afford to those who have at some cost succeeded in entering the profession some protection against excessive and lowering competition from men who have not proved themselves equal to the task. That this grievance is a real and urgent one must be evident to anyone who has had the opportunity of seeing anything of provincial practice. As prominently illustrating this there occurs to me just now the case of a leading practitioner in one of our country towns, of whose large and lucrative practice a very considerable part is worked by a middle-aged man, who is no more legally qualified to practise medicine than the coachman who drives his employer's carriage. The law does not allow to the chemist the free use of unqualified assistants. Why should the medical man claim such a right, to the public harm and his own pecuniary advantage? It seems to me that as the difficulty of entering the profession is increased, so should the difficulty of unqualified practice, whether under cover of assistantship or otherwise, be made to increase.

I am, Sirs, faithfully yours,

NOV. 19th, 1889. A YOUNG G.P.

"A MUNCHAUSEN TALE OF A CANNON BALL."

A GUERNSEY correspondent, referring to the strange inscription above the reading-desk in St. Sampson's Church, a description of which appeared in THE LANCET of NOV. 23rd, writes as follows:—"I may mention that there is a local tradition at St. Sampson's that the way in which the presence of this cannon ball was discovered was this: The soldiers who were carrying the unfortunate young lieutenant off the field on a litter noticed that one side of him was very much heavier than the other. This led to questionings and surmises, ending in further surgical investigation, and then the mass of metal was found. I, of course, merely give this tradition for what it is worth; but I have heard it narrated by old inhabitants of St. Sampson's parish, who thoroughly believed the circumstantial correctness of the whole affair."

Mr. R. H. S. Carpenter.—The letter of our correspondent is too long for insertion, but will have attention.

Mr. R. D. Pedley's paper will appear shortly.

THE INDIAN MEDICAL SERVICE.

To the Editors of THE LANCET.

SIRS,—In a late issue you drew attention to a new ruling, which requires that a medical officer in civil employ must accept promotion when it comes to his turn, the alternative being compulsory retirement. There are other details in this connexion about which Indian medical officers will be anxious to have early information. How, I would ask, does Government, under these circumstances, propose to deal with those officers to whom it has in its discretion refused promotion? Logically, it would seem that these latter should be treated similarly to those who decline promotion, and *vice versâ*. It may, of course, be argued that a man may be fit for executive, but not for administrative, work. This, I admit, may sometimes be the case; but is the officer who has been deemed efficient in all things to be placed at a disadvantage to his brother of a lesser degree of estimated suitability for promotion, each holding, let it be assumed, a lucrative civil appointment? If so, it would manifestly be to the interest of a thoroughly efficient medical officer, when favourably situated, to disqualify for promotion by conveying the impression that he was deficient in administrative capacity. At present an officer to whom promotion has been refused is still permitted to continue in his appointment. Unless, therefore, some provision is made to meet such cases, a grave injustice will be inflicted upon some of those who are officially deemed the most efficient, and the position I have indicated will be forced upon the service, though I do not believe there is a member of that distinguished body who would descend to adopt the alternative mentioned. Still, it will manifestly be impossible for Government to allow matters to remain in their present anomalous position. For instance, three of the most lucrative civil appointments in one of the Indian Presidencies are at present held—the first by an officer who has several times declined promotion, and whose enjoyment of his position has been augmented by an extension of four years beyond the retirement age of fifty-five; the second by an officer of reputation, but to whom promotion has been persistently refused; and the third by a distinguished colleague, who is close upon, but probably does not desire, his promotion. The first is to be congratulated upon having attained his wishes; the second is fortunate in having been retained upon the same footing as the first, while he has had over the third (who must either retire or accept promotion, and who reasonably anticipated consideration similar to that extended to the first) a prolonged advantage. Will the retirement of the third be insisted upon, while the services of the second are still retained? What is to be the rule for the future?

As pointed out by you, there can be no doubt as to the right and power of the State in the matter, and State considerations are obviously paramount; but I would urge the justice of a grace clause being introduced, which may obviate the sudden and arbitrary incidence of the ruling upon those who, so to speak, to the last moment anticipated no such change. Nor can the question of the disposal of those who have been passed over for promotion be separated from the present issue.

I am, Sirs, your obedient servant,

December, 1889. I.M.S.

*** With reference to the first question asked by our correspondent, it is obvious that as the officers referred to did not decline promotion the rule does not apply to them. With regard to the three cases he has specified, we presume that the first, if again offered promotion, will have the option of acceptance or retirement; the second has not declined, and probably if offered would not decline, promotion; if he did he would be obliged to retire; the third clearly comes under the rule, and we cannot suppose it will be suspended in his favour.—ED. L.

A DISPARAGING PUBLICLY A'S QUALIFICATIONS.

Hypatia.—It is surprising to us that a graduate of the University of Ireland should be so wanting in good taste as to make disparaging reflections on such qualifications as the membership of the two London Colleges and of the Society of Apothecaries. Has our correspondent not been misinformed? This is always the right assumption when an absurd statement is attributed to members of our profession.

Perplexed.—Glen's "Poor-law Orders," published by Knight and Co., will give the information required.

THE EDUCATION OF THE DEAF AND DUMB.

THE Italian Tarra is credited by his compatriots with having initiated and carried a long way to perfection the true education of the deaf and dumb—that is, the substitution for mimicry and "dactylology" of the pure oral method (*metodo orale puro*). Tarra improved on the current Italian traditions in the training of the deaf and dumb, of which there is first authentic notice in the Italy of the sixteenth century. An interesting memoir of this meritorious educationist and man of letters, bearing especially on his services to deaf and dumb children, has recently been compiled by Signor Benedetto Prina.

Tertium quid will find little difficulty in getting British diplomas recognised in most of the States. In New York, however, a local degree must be taken.

THE LATE MR. HAYNES WALTON.

To the Editors of THE LANCET.

SIRS,—The following case occurred some twenty years ago, and may possibly be interesting in connexion with your *résumé* of the late Mr. Haynes Walton, whose skill as an operating "all-round" surgeon was remarkable.

A gentleman, aged about twenty, was driven a distance of three miles to my surgery, having met with the following curious accident. He was intending to start the next week on a shooting tour at the Cape, and, having purchased some new rifle cartridges, was desirous of ascertaining their exact composition, which he attempted to find out in the following manner. Placing one on the top of one of the spikes of an iron railing, he smashed it with a blow of a hammer. The result was an explosion, and he felt a sharp blow on the inside of the middle of the thigh. A small triangular cut in the trousers was noticed, and the skin of the thigh was cut through in the same manner. There was no hæmorrhage, but it was thought best for him to "see a doctor." I passed a probe into the small wound, which was not deep enough to admit the finger, but could not get it in any direction through the cellular tissue, and the patient felt no inconvenience in any way. I could not detect any foreign substance whatever by pressure, and therefore advised him to rest it for twenty-four hours, and wait results. The external wound had healed the next day, and he started for his own home at Durham (some 200 miles), taking Shrewsbury *en route* for the night. The next thing that I heard was that on arriving at Durham inflammation had set in, and a fortnight afterwards Mr. Haynes Walton, who was staying at Durham, was called in. I shortly afterwards received the following letter from him:—

"1, Brook-street, Hanover-square, March 10th.

"MY DEAR SIR,—I was called in on Monday last to see Mr. ——. I found diffuse suppuration extending up the thigh, and a very copious discharge from the wound. I enlarged the wound, and passed my finger upwards and laterally, but discovered nothing. As my finger could not reach to the limit of the suppuration upwards, I passed a probe, and I made an incision through the integuments opposite the end of it, and explored again, but nothing was found. I was able to reach within a couple of inches of the bend of the thigh. I now enlarged the wound a little downwards, and proceeded to search. I then discovered a hole in the fascia. I passed a steel probe and detected metal. I then enlarged the opening, and with a pair of forceps withdrew the entire copper case of the cartridge. It was partly embedded in the bone. In the first instance, I declined to make any examination except under chloroform, and I am sure that I should never have succeeded in removing the body except I had used it. I placed a long splint under the limb in order to prevent all motion. I hear that a very great deal of suppuration followed my operation, with some erysipelas, but that not the slightest constitutional symptoms have appeared. There is no doubt that death would have ensued had the copper not been removed.—Believe me, dear Sir, truly yours, "HAYNES WALTON."

The patient completely recovered, and never attempted again the exploration of a cartridge, except in a more legitimate manner.

I am, Sirs, yours faithfully,

Clapton-common, N.E., Nov. 20th, 1889. HENRY J. BUCK.

A PECULIAR SEQUELA TO GONORRHŒA.

To the Editors of THE LANCET.

SIRS,—Would any of your readers kindly throw light on the following case? A fortnight ago, a young man (aged twenty-eight) came to me complaining of a peculiar musty smell emanating from the testicles, together with scalding pain on micturition. He contracted gonorrhœa two years ago, from which he has never entirely recovered. The discharge ceased more than a year ago, and since then he has been troubled with the smell and pain on micturition. His urine is clear, pale, and abundant. The smell is evident several feet away, and is very pronounced in cold weather; in warm weather it scarcely exists at all. He is otherwise in excellent health and is married. He has one child. Mother and child are healthy. He has been treated with various remedies at different times, both internally and externally—iodide of potassium, outward applications of calomel powdered on the testicles, blackwash, and corrosive sublimate being among the number. He says he has received no benefit whatever from any of them. He has also had bougies passed. I am treating him with nitrate and bicarbonate of potash and attention to diet. I should be very glad of advice as to the treatment of this case.—Yours obediently,

Dec. 7th, 1889. L.R.C.P.

MASON *v.* CHEEVENS.

WE hope to notice the exhaustive report of this case in the *South-West Suffolk Echo* next week.

MEDICAL PRECAUTIONS AGAINST CARRYING INFECTION.

Dr. Turle (North Finchley).—We have read Dr. Turle's letter with much interest, and should be glad to publish one addressed directly to us—and shorter—setting forth the points he very forcibly makes. It will be seen that we do not recognise Miss Cobbe's right to drag the profession into a discussion of details on such a matter in lay newspapers. But it is a very suitable subject for discussion in a medical publication.

Mr. W. N. Walker.—Diphtheria is both contagious and infectious (in the limited sense of the terms)—i.e., the virus may be communicated by actual contact, and indirectly through the medium of air and ingesta.

NURSING IN HONG-KONG.

To the Editors of THE LANCET.

SIRS,—I recently called attention to the statement in the annual medical report on the colony of Hong-Kong that "five French sisters of mercy will shortly arrive as nurses at the hospital." I have since heard the terms on which these sisters have been engaged by the Hong-Kong Government, and they are as follows: The senior sister is to receive seventy dollars a month salary and ten dollars a month in lieu of rations, and each of the other four sisters is to receive forty dollars a month salary and ten dollars a month in lieu of rations. Furnished rooms, fuel, light, and attendance will also be found them, and a room for a private chapel. Of course their passage money to Hong-Kong must be paid by the Government, presumably from Marseilles or Paris, and I suppose they will also receive an allowance for clothing. The Hong-Kong dollar is now worth 3*s.* 3*d.*, so the salaries paid (with ration allowance) will be £156 per annum for the senior sister and £97 10*s.* per annum for each of the others. Now, these are terms on which hundreds of English nurses, trained for three years and upwards in the best English hospitals, would be glad to undertake the work of the Hong-Kong Government Hospital, and I think we have a right to know why the Government of Hong-Kong sends for French sisters of mercy and leaves our own countrywomen out in the cold.—Yours obediently,

Dec. 3rd, 1889. M.D.

AN APPEAL.

To the Editors of THE LANCET.

SIRS,—The professional brother on whose behalf we now appeal was, till October, 1888, making in the practice of his profession an income sufficient to enable him to educate and bring up his children in consonance with the instincts of an educated gentleman, when he was stricken with complete paralysis of the right side, totally unfitting him for any professional work till quite recently. Had it not been for the thrifty and economical habits of himself and his wife, their early removal to a small house, and the timely and generous intervention of some of his professional brethren in Liverpool, he would have been compelled long since to have abandoned his home, and probably his wife and children. Local help having been exhausted, we now appeal to the general body of the profession in the hope of obtaining sufficient funds to enable him to retain his household effects till he is able to follow his profession. His present condition and progress towards recovery justify the belief that he will be able to do so in six months, possibly less. As the British Medical Benevolent Fund has already subscribed £18, his only hope for the future rests with his professional brethren, any of whom desiring further particulars can have them by applying to the undersigned.—We are, Sirs, yours faithfully,

J. D. CRAWFORD (40, Rodney-street, Liverpool).

Dec. 9th, 1889. A. SAMUELS (53, Shaw-street, Liverpool).

ALOPECIA.

To the Editors of THE LANCET.

SIRS,—Can any of your readers having experience of the use of jaborandi for increasing the growth of the human hair give me any formulæ or directions as to the best method of using it in a case of alopecia? I am, Sirs, yours faithfully,

Dec. 9th, 1889. A. BRENCHLEY, M.D.

ERRATUM.—In Mr. William Bennett's remarks, reported in our last number, upon Mr. Golding Bird's paper on "Sacculations of Veins" at the Pathological Society, for "internal" read throughout *external* jugular.

COMMUNICATIONS, LETTERS, &c., have been received from—Mr. Page, London; Mr. W. H. Bennett, London; Mr. A. A. W. Johnstone, Brighton; Dr. B. O'Connor, London; Dr. Barnard, Paris; Dr. More Madden, Dublin; Mr. A. W. Hare, Manchester; Mr. Nixon, London; Mr. A. Milnes, London; Mr. A. Black, London; Mr. McDowall, Crouch End; Mr. Melhado, London; Mr. J. Gordon, Guildford; Mr. Grün Davies, Sherborne; Dr. J. E. Squire, London; Messrs. Bennett and Co., Manchester; Dr. W. Cousins, Southsea; Messrs. Merryweather and Sons, London; Dr. Harkin, Belfast; Dr. F. L. Benham, London; Dr. Maclagan, London; Sir W. J. Simpson; Messrs. Breitkopf and Co., Leipsic; Mr. Carden, London; Mr. Pedley, London; Mr. St. Clair Buxton, London; Rev. F. Lawrence, London; Messrs. Douglas and Mason, Glasgow; Dr. Lediard, Carlisle; Mr. E. H. Evans, London; Dr. Paterson, Cardiff; Sir P. Eade, Norwich; Messrs. G. Street and Co., London; Dr. Duke, Dublin; Mr. Middlemore; Lord Balfour of Burleigh; Mr. Jibb, London; Dr. Purcell, London; Mr. Erskine Hill; Mr. V. Ford, Portsmouth; Dr. N. D. Harris, London; Mr. E. du

Cane, London; Mr. L. B. Brunton, London; Dr. J. Anderson, London; Mr. J. B. Jones, Leicester; Dr. Turle, Finchley; Messrs. Baily and Co., London; Mr. Frogley, London; Dr. Illingworth; Messrs. Back and Co., London; Mr. R. H. S. Carpenter, London; Messrs. Mayer and Meltzer, London; Dr. J. Parsons, London; Messrs. Wright and Co., Southwark; Mr. Bour, Surbiton; Mr. Sante, London; Mr. W. D. Wilkes, Salisbury; Dr. Richardson, London; Messrs. Marshall and Co., London; Mr. Digby, London; Dr. Bilharet, Paris; Mr. Rat, West Indies; Mr. Lindsay, Belfast; Mr. Watson, Berks; Dr. Kempson, New York; Messrs. Pimms, London; Mr. Hensley, Somerset; Mr. Howard Marsh, London; Professor Pick, Pragden; Mr. Kilvington, West Hartlepool; Mr. Dixon, Wakefield; Mr. Frost; Messrs. Gallais and Co., London; Mr. Shepley, Burnley; Mr. Tinsworth; Messrs. Gibbs and Co., London; Mr. Diggens, Lancaster; Mr. Wyley, Coventry; Mr. Beal, Brighton; Mr. Hulme, Birmingham; Mr. Hope, Bloomsbury; Mr. Aubyn, Newport; Mr. Carless, Liverpool; Miss Holmes, Nice; Mr. Shere, Sheffield; Mr. Blair, Leeds; Mr. Coghill, Birmingham; Mr. Pike, Edinburgh; Mr. Philpots, Birkenhead; Mr. Robson, Leeds; Messrs. Livingstone, Edinburgh; Messrs. Kegan Paul and Co., London; Mr. Frowde, London; Dr. Edwards, Paris; Messrs. Lee and Martin, Birmingham; Dr. Staples, Reading; Messrs. Blondeau et Cie., London; Mr. Stack, Omagh; Mr. Swete, Worcester; Mr. V. de Laprade, Lyons; Mr. Ernst, Fitzroy-square; Dr. Macdonald, Midlothian; Miss Deane, London; Dr. Brenchley; Mr. Macnamara; Mr. R. Pain; L.R.C.P.; U. R. A.; L. M. H.; Secretary, Wolverhampton General Hospital; M.D.; Perplexed; M.B.; Secretary, Cheltenham General Hospital; Medical, Aberdeen; Student, London; Tertium Quid; J. D. E., London; T. V. F., London; Secretary, Manchester Royal Infirmary; A. B., York; An Old Subscriber; Secretary, Derby General Infirmary; M.R.C.S.; W. W.; Secretary, Mercers Hospital, Dublin; Clerk, Joint Counties Asylum, Carmarthen; Medicus.

LETTERS, *each with enclosure*, are also acknowledged from—Mr. Caplow, Wilts; Dr. McMordie, Belfast; Mr. Clapp, Exeter; Mr. Cornish, Manchester; Mr. Sprake, Brighton; Mr. Cornish, Birmingham; Mr. Day, Staplehurst; Mr. Young, Edinburgh; Mr. Best, Hull; Mrs. Askwith, Ramsgate; Dr. Thomas, Florence; Mr. Wills, Bristol; Mr. Bonor, Bristol; Mr. Hammond, Dublin; Mr. Smart, Sydenham; Mr. Tully, Hastings; Mr. Cook, Reading; Mr. Purland, Woolwich; Dr. Sharpe, Sleaford; Dr. Williams, Tylorstown; Mr. Branthwaite, Rickmansworth; Mr. Eyre, Pontypool; Mr. Johnson, Leicester; Dr. Stables, Bucks; Dr. Evans, Ilfracombe; Dr. Ghose, Burmah; Mr. Hornibrook, Bloomsbury; Mr. Lee, Bath; Mr. Cripps, London; Mr. Seegenberg, Hackney; Dr. Miller, Yorks; Mr. White, Kensington; Mr. Storer, Notts; Mr. Whall, Worksop; Dr. Payne, London; Messrs. Widmers and Rogers, London; Mr. Priestley, Liverpool; Dr. Faulkner, New Zealand; Mr. Heeman, Cheshire; Mr. Tyte; Messrs. Maclachlan and Stewart, Edinburgh; Mr. Heywood, Manchester; Messrs. Bennion and Horne, Salop; Mrs. Heygate, Hants; Mr. Coombs, Bridgwater; Dr. Williams, London; Mrs. Cocking, Plymouth; Mr. Pierce, Liverpool; Mr. Harrison, Yorks; Mr. Warburton, Pontypridd; Tutor, Newcastle-on-Tyne; M.D., London; P. P., Ventnor; Secretary, University of Glasgow; T. G., London; M.D., Wood-green; Secretary, Stanley Hospital, Liverpool; P., Hull; Secretary, School of Medicine, Edinburgh; Alpha, London; Vindex, London; Sigma, Tamworth; Felix, Edinburgh; Liberator, London; S. L., London; K., London; M. M., London; Medical, London; Nucleus, London; Secretary, Royal Berks Hospital; Cantab., London; Chums, London; Secretary, Kent County Asylum; G. A. C., London; C. M., London; R. W., Liverpool; R. H., London; Medicus, Folkestone; J., Enfield; Riversl, London; Maga, London; Medicus, Birmingham; Plasyndre, Monmouth; P. A. M., Bognor; Alpha, Glamorganshire; M.D., Mincing-lane.

Sussex Daily News, Reading Mercury, Trade, Finance, and Recreation, Weekly Free Press and Aberdeen Herald, Suffolk and Essex Free Press, Standard, Hertfordshire Mercury, Scotsman, Mining Journal, Surrey Advertiser, Brighton Herald, Taranaki News (N.Z.), Child's Guardian, The Worker, &c., have been received.

Medical Diary for the ensuing Week.

Monday, December 16.

CHARING-CROSS HOSPITAL.—Operations, 3 P.M.
ROYAL LONDON OPHTHALMIC HOSPITAL, MOORFIELDS.—Operations, daily at 10 A.M.
ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.—Operations, 1.30 P.M., and each day at the same hour.
HOSPITAL FOR WOMEN, SOHO-SQUARE.—Operations, 2 P.M., and on Thursday at the same hour.
METROPOLITAN FREE HOSPITAL.—Operations, 2 P.M.
CENTRAL LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M., and each day in the week at the same hour.
UNIVERSITY COLLEGE HOSPITAL.—Ear and Throat Department, 9 A.M.; Thursday, 9 A.M.
SOCIETY OF ARTS.—8 P.M. Mr. William Jago: Modern Developments of Bread Making. (Cantor Lecture.)
MEDICAL SOCIETY OF LONDON.—8.30 P.M. The Discussion on Dr. Douglas Powell's paper will be continued, and cases of Aneurysm of the Aorta will be shown.

Tuesday, December 17.

KING'S COLLEGE HOSPITAL.—Operations, 2 P.M.; Fridays and Saturdays at the same hour.
GUY'S HOSPITAL.—Operations, 1.30 P.M., and on Friday at the same hour. Ophthalmic Operations on Monday at 1.30 and Thursday at 2 P.M.
ST. THOMAS'S HOSPITAL.—Ophthalmic Operations, 4 P.M.; Friday, 2 P.M.
CANCER HOSPITAL, BROMPTON.—Operations, 2 P.M.; Saturday, 2 P.M.
WESTMINSTER HOSPITAL.—Operations, 2 P.M.
WEST LONDON HOSPITAL.—Operations, 2.30 P.M.
ST. MARY'S HOSPITAL.—Operations, 1.30 P.M. Consultations, Monday, 2.30 P.M. Skin Department, Monday and Thursday, 9.30 A.M. Throat Department, Tuesdays and Fridays, 1.30 P.M. Electro-therapeutics, same days, 2 P.M.
PATHOLOGICAL SOCIETY OF LONDON (at 20, Hanover-square).—8.30 P.M. Dr. Hadden: Cyst of Cerebellum.—Dr. Gulliver: Simple Cyst of Cerebellum.—Mr. W. S. Colman: Cerebellar Tumour.—Mr. Barling: Cancer of Breast following Eczema.—Mr. Bland Sutton: Psorospermiæ in Ureter.—Mr. Silcock: Parasitism by Psorospermiæ.—Dr. Delepine: Psorospermiæ in Rabbit's Liver.—Dr. Hunter: Pathology of Duodenitis after Burns.—Dr. Hale White: Intussusception of Jejunum in Adult due to a Polyp. Card Specimens.

Wednesday, December 18.

MIDDLESEX HOSPITAL.—Operations, 1 P.M. Operations by the Obstetric Physicians on Thursdays at 2 P.M.
ST. BARTHOLOMEW'S HOSPITAL.—Operations, 1.30 P.M.; Saturday, same hour. Ophthalmic Operations, Tuesday and Thursday, 1.30 P.M. Surgical Consultations, Thursday, 1.30 P.M.
ST. THOMAS'S HOSPITAL.—Operations 1.30 P.M.; Saturday, same hour.
LONDON HOSPITAL.—Operations, 2 P.M. Thursday & Saturday, same hour.
SAMARITAN FREE HOSPITAL FOR WOMEN AND CHILDREN.—Operations, 2.30 P.M.
GREAT NORTHERN CENTRAL HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Skin Department, 1.45 P.M.; Saturday, 9.15 A.M.
ROYAL FREE HOSPITAL.—Operations, 2 P.M., and on Saturday.
CHILDREN'S HOSPITAL, GREAT ORMOND-STREET.—Operations, 9.30 A.M.; Surgical Visits on Wednesday and Saturday at 9.15 A.M.
HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, BROMPTON.—4 P.M. Mr. Rickman J. Godlee: On Abscess of the Liver, and Notes on some Surgical Chest Cases.
SOCIETY OF ARTS.—8 P.M. Sir Robert Rawlinson: London Sewage.

Thursday, December 19.

ST. GEORGE'S HOSPITAL.—Operations, 1 P.M. Surgical Consultations, Wednesday, 1.30 P.M. Ophthalmic Operations, Friday, 1.30 P.M.
CHARING-CROSS HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; Ear and Throat Department, 9 A.M.
NEUROLOGICAL SOCIETY OF LONDON (National Hospital, Queen-sq.).—8.30 P.M. Mr. J. Sully: The Psycho-physical Process in Attention.

Friday, December 20.

ROYAL SOUTH LONDON OPHTHALMIC HOSPITAL.—Operations, 2 P.M.

Saturday, December 21.

MIDDLESEX HOSPITAL.—Operations, 2 P.M.
UNIVERSITY COLLEGE HOSPITAL.—Operations, 2 P.M.; and Skin Department, 9.15 A.M.

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